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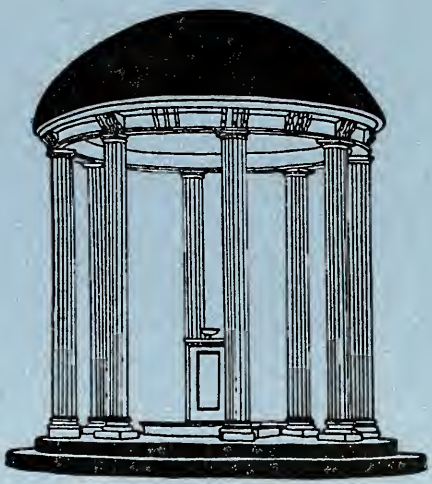
RECORD OF THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

May 25, 1967 *Number 712*

HE GENERAL CATALOGUE ISSUE



SCHEDULE OF ISSUES OF

THE RECORD

FOR YEAR 1966-1967

Department of Statistics Catalogue

School of Library Science Catalogue

School of Social Work Catalogue

School of Pharmacy Catalogue

Summer Session Catalogue

School of Business Administration Catalogue

Graduate School of Business Administration Catalogue

School of Education Catalogue

School of Law Catalogue

School of Public Health Catalogue

School of Nursing Catalogue

School of Journalism Catalogue

Graduate School Catalogue

School of Medicine Catalogue

The General Catalogue Issue

Undergraduate Bulletin

Research: A Record of Scholarship and Publication

RECORD OF THE UNIVERSITY OF NORTH CAROLINA
AT CHAPEL HILL

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CHAPEL HILL, N. C.

Under the Act of August 24, 1912

THE UNIVERSITY OF NORTH CAROLINA

(Four Component Institutions)

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WILLIAM SMITH WELLS, A.B., A.M., Ph.D., *Vice President—Academic Affairs*
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ALEXANDER HURLBUTT SHEPARD, JR., M.A., *Assistant Vice President and Treasurer*
RUDOLPH PATE, B.S., *Assistant to the President*

By the act of the General Assembly of 1931 the University of North Carolina at Chapel Hill, the North Carolina College for Women at Greensboro, and the North Carolina State College of Agriculture and Engineering at Raleigh were consolidated into The University of North Carolina.

By the act of the General Assembly of 1963 effective July 1, 1963, The University of North Carolina comprised: The University of North Carolina at Chapel Hill, The University of North Carolina at Greensboro and North Carolina State of The University of North Carolina at Raleigh.

By the act of the General Assembly of 1965 effective July 1, 1965, The University of North Carolina comprises: The University of North Carolina at Chapel Hill, The University of North Carolina at Greensboro, The University of North Carolina at Charlotte, and North Carolina State University at Raleigh.

Each institution has its own faculty and student body, and each is headed by a chancellor as its chief administrative officer. Unified general policy and appropriate allocation of function are effected by a single Board of Trustees and by the President with other administrative officers of the consolidated University. Administrative offices are located in Chapel Hill.

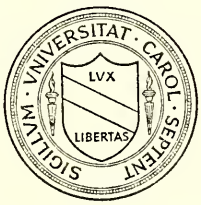
Members of the Board of Trustees are elected by the Legislature, and the Governor of North Carolina is chairman ex officio. A current list of members of the Board of Trustees is in Part VI.

The chancellors of the component institutions are responsible to the President as the principal executive officer of The University of North Carolina.

MAY 25, 1967 NUMBER 712

RECORD OF THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

THE ONE HUNDRED AND
SEVENTY-THIRD SESSION



THE GENERAL CATALOGUE ISSUE
1966-1967

Announcements for the Session
1967-1968

THE UNIVERSITY OF NORTH CAROLINA PRESS
CHAPEL HILL, N. C.

UNIVERSITY CALENDAR

1967-1968

FALL SEMESTER, 1967

September 8, Friday	Fall semester opens.
September 8, Friday, 12:00 NOON	Men's Residence Halls open.
September 8, Friday, 12:00 NOON	Women's Residence Halls open for freshmen.
September 9, Saturday, 8:30 A.M.	Orientation and placement of all new freshmen and transfer students according to schedule to be announced.
September 9, Saturday, 12:00 NOON	All Residence Halls open for new transfer women.
September 12, Tuesday, 12:00 NOON	Residence Halls open for returning women students.
September 11, 12, 13 - Monday, Tuesday, Wednesday	Registration according to the schedule to be announced. Orientation closes.
September 14, Thursday	Classes begin for all upperclassmen in all schools and departments. Late registration begins. Fee of $5.00 charged for late registration.
September 18, Monday, 4:30 P.M.	End of late registration and change in schedule. No registration accepted after this date.
October 12, Thursday	University Day.
November 13, Monday, 4:30 P.M.	Progress reports for freshmen due.
November 22, Wednesday, 1:00 P.M.	Instruction ends for Thanksgiving recess.
November 27, Monday, 8:00 A.M.	Instruction resumed.
December 19, Tuesday, 1:00 P.M.	Instruction ends for Christmas Vacation.
January 3, 1968, Wednesday, 8:00 A.M.	Instruction resumed.
January 12, Friday, 6:00 P.M.	Fall semester classes end.
January 13, Saturday	Reading Day.
January 15, Monday, 8:30 A.M.	Fall semester final examinations begin.
January 24, Wednesday, 6:30 P.M.	Fall semester final examinations end.
January 24, Wednesday, 6:00 P.M.	Fall semester closes.

SPRING SEMESTER, 1968

January 24, Wednesday	Spring semester opens.
January 24, Wednesday, 12:00 NOON	Residence Halls open for new students.
January 25, Thursday, 9:00 A.M.	Orientation and placement of all new freshmen and transfer students according to the schedule to be announced.
January 26-27, Friday—8:30 A.M.-4:30 P.M. Saturday - 8:30 A.M.-12:00 NOON	Registration according to schedule to be announced.
January 29, Monday, 8:00 A.M.	Classes begin. Late registration begins. Fee of $5.00 charged for late registration.
February 1, Thursday, 4:30 P.M.	End of late registration and change in schedule. No registration accepted after this date.
March 25, Monday, 4:30 P.M.	Progress reports for freshmen due.
April 12, Friday, 1:00 P.M.	Instruction ends for spring recess.
April 22, Monday, 8:00 A.M.	Instruction resumed.
April 27, Saturday, 12:00 NOON	Last day in which men students in residence have preference in reserving rooms for next scholastic year.
May 18, Saturday, 12:00 NOON	Spring semester classes end.
May 20, Monday	Reading Day.
May 21, Tuesday, 8:30 A.M.	Final examinations begin.
May 30, Thursday, 6:00 P.M.	Final examinations end.
June 1, Saturday	Commencement begins.
June 2, Sunday	Commencement sermon.
June 3, Monday	Graduation exercises.

SUMMER SESSION, 1968

First Term

June 7, Friday	Registration.
June 8, Saturday	First day of classes.
July 6, Saturday	Regular classes in all departments.
July 11, Thursday	Last day of classes.
July 12-13, Friday and Saturday	Examinations.

Second Term

July 15, Monday	Registration.
July 16, Tuesday	First day of classes.
July 20, Saturday	Regular classes in all departments.
August 20, Tuesday	Last day of classes.
August 21-22, Wednesday and Thursday	Examinations.

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Part One

GENERAL INFORMATION

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

JOSEPH CARLYLE SITTERSON, Ph.D., *Chancellor*
CLAIBORNE STRIBLING JONES, Ph.D., *Assistant to the Chancellor*
CORNELIUS OLIVER CATHEY, Ph.D., *Dean of Student Affairs*
C. HUGH HOLMAN, Ph.D., *Provost*
JAMES CARLTON INGRAM, Ph.D., *Dean of the Graduate School*
C. ARDEN MILLER, M.D., *Vice Chancellor, Health Sciences*
EVERETT D. PALMATIER, Ph.D., *Vice Chancellor, Advanced Studies*
CHARLES MILTON SHAFFER, S.B. Comm., *Director of Developmental Affairs*
JAMES ALLEN WILLIAMS, LL.B., *Acting Business Manager*

The University of North Carolina, provided for in the state constitution in 1776 and chartered in 1789, laid the cornerstone of its first building in 1793 and opened its doors to students in 1795. It thereby became the first state university in the United States to admit students and send them out into the nation bearing a state university diploma.

"Historical Sketch" in Part VI of this catalogue presents additional information and a selected bibliography.

ADMINISTRATIVE ORGANIZATION

(See page 448.)

OFFICERS OF THE FACULTY

(See page 450.)

UNDERGRADUATE PROGRAMS

The General College provides during the freshman-sophomore years guidance and instruction in basic studies required for admission to the College of Arts and Sciences and the schools of Business Administration, Education, Journalism, and Pharmacy (freshman year only). Programs of study prescribed for the first and second years of the various curricula have a common core of required specified subjects (English, physical education, social science) and required choices from specified subject areas (natural science, modern languages, mathematics-classics-logic). This similarity, together with a liberal range of electives, permits transfer within the General College from one curriculum to another, usually without loss of credit. Prescribed differences among the General College programs permit some specialization to begin in the first two years at the University. Further information can be found in "General College," Part III.

The College of Arts and Sciences administers undergraduate programs of study leading to the following degrees: Bachelor of Arts (with selected major in one department) ; Bachelor of Fine Arts; Bachelor of Music; Bachelor of Science (with subject of specialized study designated on diploma) in Chemistry, in Geology, in Physics, in Mathematics, in Bacteriology, in Industrial Relations, in Statistics, and in Zoology. Jointly with the professional schools, the College of Arts and Sciences has jurisdiction over certain academic degrees which mark systematic advancement in a professional program requiring a longer period than four years of combined academic and professional study: Bachelor of Arts and Laws; Bachelor of Science in Medicine, in Medical Technology, and in Dentistry. Further information can be found in "College of Arts and Sciences," Part III.

Undergraduate programs of study administered by the professional schools are fully described in each school's special catalogue, which should be consulted to supplement the information in Part III of this catalogue.

These undergraduate programs lead to the degrees listed below:

(IN THE DIVISION OF ACADEMIC AFFAIRS)

School of Business Administration: Bachelor of Science in Business Administration and (jointly with the School of Law) Bachelor of Science in Business Administration and Laws.

School of Education: Bachelor of Arts in Education (Elementary and Secondary) ; Bachelor of Science in Science Teaching and in Health Education; Bachelor of Music Education.

School of Journalism: Bachelor of Arts in Journalism.

(IN THE DIVISION OF HEALTH AFFAIRS)

School of Dentistry: Bachelor of Science in Dental Hygiene and (jointly with the College of Arts and Sciences) Bachelor of Science in Dentistry.

School of Medicine: Bachelor of Science in Physical Therapy and (jointly with the College of Arts and Sciences) Bachelor of Science in Medicine and in Medical Technology.

School of Nursing: Bachelor of Science in Nursing.

School of Pharmacy: Bachelor of Science in Pharmacy.

GRADUATE AND PROFESSIONAL PROGRAMS

The degrees of Master of Arts and Master of Science are offered in thirty-eight schools and departments and the degree of Doctor of Philosophy is offered in thirty-four schools and departments. The complete lists can be found in "Graduate School," Part III.

In the Division of Academic Affairs professional graduate degrees administered by the Graduate School include Doctor of Education; Master of Business Administration, of Education, of Music, of Public Administration, of Regional Planning, of Social Work; Master of Arts in College Teaching, in Communication, in Creative Art, in Teaching; and Master of Science in Library Science, and in Recreation Administration; Licentiate in Dramatic Art.

The following professional degrees are offered in the Division of Health Affairs and administered by the Graduate School: Doctor of Public Health; Master of Public Health; Master of Science in Nursing, in Oral Pathology, in Orthodontics, in Pedodontics, in Periodontology, in Prosthodontics, in Public Health and in Sanitary Engineering.

Advanced professional degrees under the jurisdiction of the respective schools are Bachelor of Laws, Doctor of Medicine, and Doctor of Dental Surgery.

For further information concerning the graduate and professional degrees mentioned above, see appropriate sections of Part III of this catalogue or the catalogues of the Graduate School and the professional schools.

UNDERGRADUATE HONORS PROGRAM

Under the general direction of the Faculty Council on Honors, special programs of honors study are open to qualified students. In the General College, a Freshman and Sophomore Honors Program is provided on an invitational basis for outstanding members of these classes; it consists primarily of placement in special advanced sections of the required courses of the General College curriculum. Programs in departmental honors, offered in most departments of instruction in the College of Arts and Sciences and in some of the professional schools, are desgned to provide opportunity for individualized, advanced programs of reading, instruction, and research for students of high academic standing. The honors advisers of all the departments comprise the Faculty Council on Honors, which has the responsibility of general coordination of these various programs. More detailed information on these programs, and other opportunities for advanced standing, is given in Part III.

SUPPLEMENTATION AND ACCELERATION OF PROGRAMS

In addition to the colleges and the schools, other University agencies provide opportunities for enrichment and possible acceleration of the selected program of study. The University Library is not only an indispensable supplement to all classroom instruction but a constant challenge to independent reading and systematic investigation. Within prescribed limits academic credit earned in the Summer Session and

through correspondence or extension courses of the University Extension Division may hasten progress toward most degrees, restore eligibility, or remove some entrance deficiencies. Opportunities for advanced standing and special courses for superior students in the General College are explained in Part III.

Instruction in Naval Science or in Aerospace Studies may be combined with undergraduate programs of study chosen by applicants admitted to the Naval Reserve Officers Training Corps or the Air Force Reserve Officers Training Corps. Such programs, successfully pursued for four years, lead to bachelors' degrees and to commissions in the Navy, the Marine Corps, or the Air Force. Further information is given in Part IV.

Other agencies described in Part V provide (generally without formal credit) varied opportunities for laboratory experience, specialized research, and cultural acquirements.

STUDENT LIFE AND CAMPUS CITIZENSHIP

Apart from class instruction and academic counseling, almost every aspect of student life is the concern of one or more offices of the Division of Student Affairs.

Services essential to the welfare of the student body are rendered by the offices of Admissions, Housing, Records and Registration, Testing, the Director of Student Health Service, the Dean of Men, and the Dean of Women.

Readily available to individuals and groups are the services of the YMCA-YWCA staff, the Graham Memorial Student Union, the Office of Student Aid, the University Placement Service, and special advisers to foreign students and veterans.

The Dean of Student Affairs is the administrative head of the Division and chairman of its administrative board. Personal guidance not elsewhere available and coordination of student activities are primary functions of the offices of the Dean of Men and the Dean of Women.

Problems peculiar to foreign students and all questions relating to them are referred to special advisers in this area.

Names of officers and advisers are listed under "Division of Student Affairs," Part VI.

STUDENT HEALTH SERVICE

In order to provide proper medical attention for the student, the University employs eight full-time physicians, one part-time physician and two half-time psychiatrists, and a half-time marriage counselor, who provide general medical care and psychiatric counseling. It maintains a well-appointed infirmary with sixty-five beds. Modern diagnostic facilities include an x-ray unit, under the direction of a full-time tech-

nician, and a clinical laboratory, under the direction of two full-time technicians. The infirmary is under the immediate supervision of the Director of the Student Health Service and is provided with fifteen full-time experienced nurses, who are directed by a nursing supervisor. At the discretion of the attending physician, a student may be admitted to the wards; and for such service as may be rendered by the staff no charges are made. However, certain highly specialized services (major surgery, consultations, certain types of x-ray and laboratory procedures) not available at the infirmary, are rendered by N. C. Memorial Hospital at standard charges. In addition, a charge is made for inpatient meals and for other than routine drugs and dressings provided on either an inpatient or outpatient basis. Charges are also made for routine procedures not directly related to the health of a student—such as pre-employment physical examinations, and the like—and for services rendered between regular sessions when the student is not actually enrolled in the University.

RELIGIOUS INTERESTS AND ACTIVITIES

The interest of the University in the religious life of the community is expressed in the encouragement of Foundations or Centers supported by Protestant, Catholic and Jewish institutions in the community and the support of the YMCA-YWCA on campus. The Foundations and the YMCA-YWCA are staffed by theologically trained persons who seek to minister to the religious interests and needs of the entire University.

TESTING SERVICE AND GUIDANCE PROGRAM

The facilities of the University Testing Service are available without charge to all University students to assist them in selecting an appropriate academic major and ultimate vocation. Students who request this service receive a comprehensive series of tests and are interviewed by experienced vocational counselors. An occupational information library is maintained for student use. Students who are having academic difficulties, who are in doubt as to a suitable academic major, or who have been unable to make satisfactory long-range vocational plans may find these services of particular value. Appointments may be made at the Reception Office, Room 019, Peabody Hall. Additional information on this service may be found in Part V.

THE READING PROGRAM

The Reading Program of the University Testing Service offers its services to any student interested in improving his reading and studying skills. Students may register for the reading course at any time during the regular academic year and during both terms of Summer School

at the Reading Program Office, Room 106, Peabody Hall. This course employs the laboratory method, with each individual concentrating on those reading and studying skills he wants or needs to improve. Additional information on this service may be found in Part V.

PLACEMENT SERVICE

Through its placement facilities the University aids students and alumni in solving the problem of postgraduate employment. Registration is voluntary, and there is no charge for the service.

The Placement Service assists students and alumni in finding permanent employment in business, industry, government, and college teaching. Registration with the Placement Service assures a complete and permanent personnel file, including a summary of college activities and confidential evaluations from faculty members, which is available to employers upon request.

The Placement Service arranges student-employer interviews on the campus throughout the year and conducts a placement program for summer employment. The office maintains a career library of occupational information and company literature and a file on postgraduate scholarships and fellowships.

STUDENT GOVERNMENT

No detailed body of rules is designed to govern student behavior. High standards of personal integrity under the Honor Code and of reputable conduct under the Campus Code constitute the core of student responsibility. The student councils, composed entirely of student members, are the responsible bodies before which violators of the Honor Code and the Campus Code are tried. If found guilty, a student may be suspended from the University. Among the offenses traditionally requiring suspension are cheating, stealing, lying, drunkenness, and gross misconduct.

The student body of the University is self-governing. The disciplinary and administrative functions of representative government are exercised by executive, legislative, and judicial branches in accordance with the provisions of a student constitution. The president of the student body, assisted by the vice-president, the secretary, and the treasurer, is the chief executive officer. Legislative functions are exercised by the Student Legislature, which has the responsibility for the annual budget, for the supervision of certain committees, and for the proper performance of many constitutional duties; and by the Women's Residence Council, which is responsible for drafting rules for women students and for coordinating women's activities. The judiciary comprises the Men's Council, the Women's Council, and special councils for residence halls, fraternities, and professional schools. The Men's

Residence and Women's Residence Councils regulate living conditions in the residence halls. The Interfraternity Council is the governing body for social fraternities; it attempts to unify programs and action of the various chapters. The Panhellenic Council, composed of representatives of the sorority chapters, is a clearing house for common problems, the regulating group for rush week, and the sponsor of various projects.

Names of 1966-67 student officers and council members are listed in Part VI.

STUDENT PUBLICATIONS

The Publications Board of the University is the publishing agency for *The Daily Tar Heel,* the student newspaper; *The Yackety Yack,* the student yearbook; *The Carolina Quarterly,* published each December, March, and May; and *The Carolina Handbook,* published each September. The Board is composed of representatives from the faculty and student community. The Board controls the financial policies of the four publications, which are financed by appropriations from student fees and by receipts from advertising.

RECOGNITION OF DISTINGUISHED ACHIEVEMENT

The Alpha of North Carolina Chapter of Phi Beta Kappa and many other honor societies, orders, and fraternities recognize by invitational membership those students of good character who make outstanding records of achievement in general or specialized scholarship, in leadership, and in constructive exercise of other talents. Part VI of this catalogue contains a descriptive list of these honorary organizations, as well as a list of medals and prizes for distinguished achievement in designated activities.

STUDENT ORGANIZATIONS AND ACTIVITIES

Illustrative of the range of individual and group interests represented in student activities is the following incomplete list of organizations. Further information may be secured from the Office of the Dean of Men.

DEBATE AND DISCUSSION: *The Dialectic and Philanthropic Literary Society* combines in one organization the two historic debating societies established in 1795. The traditional rivals also meet in separate sessions as "The Senate of the Dialectic Literary Society" and "The General Assembly of the Philanthropic Literary Society." *The Debate Council,* an outgrowth of the debating societies, is composed of student representatives of the forensic squad and faculty advisers. *The Carolina Forum,* in cooperation with other organizations, brings to the campus

speakers of national and international reputation in various areas of public interest. *The Carolina Symposium,* which is held semiannually, involves students, faculty, and national and international figures in significant dialogue and discussion. A *Fine Arts Festival* is held semiannually, alternating with *The Carolina Symposium,* involving students, faculty, and well known figures in the fine arts in a creative encounter.

FOREIGN LANGUAGES AND CUSTOMS: *L'Alliance Française, La Table Française, El Circulo Hispánico, Der Deutsche Mittagstisch,* and *Delta Phi Alpha* (honorary German fraternity) meet regularly for informal programs and discussion in the language of the country represented by the club. *The Cosmopolitan Club,* an organization which brings together American and foreign students in common educational and social activities, meets each week.

MUSICAL ACTIVITIES: Students may participate in any of several musical organizations including the *University Symphony Orchestra,* the *Concert Band,* the *Varsity Marching Band,* the *University Chorus,* the *Varsity Men's Glee Club,* the *Gleemen,* the *Opera Theater,* and the *Chapel Hill Choral Club.* In addition to these larger performing groups, there are numerous other opportunities on the campus either for musical participation or for concert-going. Among the latter are the programs of the *Tuesday Evening Series*—distinguished concerts by members of the music faculty, major organizations, or visiting artists, which are presented weekly in Hill Hall throughout the year and offered to the University community without charge.

DRAMATIC ART: *The Carolina Playmakers,* the University dramatic organization, affords opportunity for student participation in writing, producing, and acting. For further information see Part V.

RELIGIOUS ORGANIZATIONS: In addition to active participation in the religious, social, and welfare programs of the YMCA-YWCA, students have opportunities to affiliate with denominational groups having a close relationship to their respective churches and foundations in Chapel Hill.

SOCIAL ORGANIZATIONS: Many residence halls have organized social programs for their residents. *The Carolina Women's Council,* representing residence hall women, sponsors activities for the development of social, civic, and intellectual interests of the members of the women's residence hall system.

Twenty-three national fraternities and eight national sororities have active chapters at the University. Four professional fraternities also maintain houses.

INTRAMURAL ACTIVITIES: Intramural activities for men, organized and administered by the Department of Physical Education, provide a broad program of competitive and recreational activities for the voluntary participation of the Carolina student body. The program includes individual, dual, team, co-recreational and outing activities. This wide variety enables students to sample a sufficient number of activities to discover the ones in which they are interested and are capable of participating with satisfaction while in school and in later life.

Competition is conducted in three Divisions: Fraternity, Residence Hall, and Graduate-Independent. Divisional champions compete for the campus championship in team sports. Awards are presented to the winning team in each Division.

The *Women's Athletic Association* provides opportunities for all women students to participate in recreational and competitive sports through its intramural and club programs.

The *University Club* seeks to promote good sportsmanship in all University competitive events—intramural or intercollegiate. Pep rallies are sponsored and visiting teams are entertained.

Part Two

ADMISSIONS, EXPENSES, SCHOLASTIC ELIGIBILITY

ADMISSIONS

Unless otherwise specified, admissions to all undergraduate curricula are under the jurisdiction of the Director of Admissions, from whose office application forms may be secured. The completed forms, with required evidence of eligibility, should be submitted to the Director of Admissions according to the date set in the letter of instructions accompanying each application for the term in which the applicant desires to enroll.

The University can no longer accept all North Carolina applicants who meet the minimum standards for admission to undergraduate programs. It is necessary that the Office of Admissions give priority in admissions to applicants in accordance with the quality of their records

Applicants for admission to the Graduate School, or to one of the professional schools requiring a minimum of three years of college work before admission should consult the appropriate special catalogue and apply directly to the dean or admissions officer of the school in which admission is sought. Visiting students in the Summer Session (those wishing transfer or certificate credit only) should make application to the Director of the Summer Session.

GENERAL REQUIREMENTS FOR ADMISSION

1. Minimum age of 16 by date of intended registration.

2. Satisfactory evidence of good character.

3. Applicant's medical report properly completed by his physician on a form sent to the applicant with the notification of his acceptance. This form must be received by the Director of Student Health Service in time for official clearance before the student registers. (Students readmitted after a year or more of absence from the University must also submit a completed medical form supplied by the Director of Admissions.)

4. Satisfactory record of scholastic achievement. The minimum evidence of academic promise presented below as "Additional Requirements" does not assure automatic admission, especially in the many instances of limited quotas. For cause the Committee on Admissions may disapprove any application.

5. Nonresidents of North Carolina are required to pay a $10.00 non-deductible, non-refundable application fee. Residents of North Carolina are not required to pay the application fee.

ENROLLMENT DEPOSIT

Applicants who are admitted as regular students in the University are required to remit a deposit to signify their intention to enroll.

Any applicant who is accepted for admission to The University of North Carolina at Chapel Hill must deposit with the University Cashier $25.00 no later than the date specified in his or her notification of admission. The approval for admission will be tentative until the deposit is received and until all required final academic records are received. If the deposit is not received by the time specified, the applicant's acceptance will be continued only if space in the University is available.

If, after making the deposit the applicant changes his decision, he may obtain a refund in the amount of $20.00 provided he notifies the Director of Admissions of the University that he will not enroll. No refund will be made to applicants who cancel admission on or after July 1. All applicants who actually enroll will receive credit for the $25.00 deposit on their University bill. Prospective students who desire to reserve a residence hall room must make a separate room deposit.

An applicant who is admitted within two weeks of the registration period must remit the deposit of $25.00 immediately.

ADDITIONAL REQUIREMENTS FOR SPECIAL GROUPS

FRESHMEN

1. Certificate of graduation from an accredited high school and a satisfactory recommendation from the school last attended. (In exceptional cases, admission by special examination may be possible.)

2. Fifteen acceptable units of high school credit including—for admission to the General College—the following specific subjects: English, 4 units; one foreign language, 2 units; algebra 1½ units; plane geometry, 1 unit; History of the United States, 1 unit; a natural science, 1 unit; 2½ academic units elective, and not more than 2 electives in non-academic or vocational subjects will be allowed.

Admissions with deficiencies in algebra (½ unit), in plane geometry (1 unit), in foreign languages (2 units) may be granted only in exceptional cases with approval of the Committee on Admissions to high school graduates whose records are otherwise acceptable provided the applicant presents fifteen other acceptable units. Removal of

deficiencies[1] must be accomplished before registration for the first semester, and all deficiencies, if the student is approved by the Committee on Admissions, must be removed before registration for the third semester.

3. Satisfactory scores on the Scholastic Aptitude Tests of the College Entrance Examination Board.

Every applicant for admission to the freshman class is required to take the Scholastic Aptitude Test of the College Entrance Examination Board. The test is given in December, January, March, May, and July. It is recommended that the Scholastic Aptitude Test be taken early in the senior year.

Students wishing to make application to take tests should procure application forms from their secondary schools, or write directly to the College Entrance Examination Board, Box 592, Princeton, New Jersey, or Box 1025, Berkeley, California 94704, for the *Bulletin of Information,* which includes an application form and is available without charge. The bulletin lists test centers and gives complete information concerning the tests.

Because of deadlines for filing application to take the College Board tests, the student must make his arrangements well in advance of the testing date so that his application may be received in Princeton or Berkeley by the closing date.

4. Transfer applicants with less than sopohomore standing must meet all entrance requirements of freshmen including satisfactory scores on the Scholastic Aptitude Tests, have a *C* average on all work undertaken at other institutions as well as a *C* average on work accepted for credit at the University.

5. For other than General College admission, any special requirement of the school or curriculum to which the applicant seeks admission.

ADVANCED PLACEMENT

Entering freshmen students may qualify for advanced placement in courses covered by the College Board Advanced Placement Examinations, or by University tests taken during the summer preregistration program, or during the orientation and registration period prior to the opening of any term. College credit and/or advanced placement is possible for those students who have studied in special advanced courses in secondary school. In such cases, the College Board Advanced Placement Examinations are required. Freshmen whose sec-

1. The following methods are authorized: *Algebra* and *Plane Geometry*—passing the required courses of the freshman mathematics requirement of the General College in the Summer Session of the University prior to the first registration of the student in the University; summer work at an approved high school or college or Mathematics Cn A or/and Cn R offered by the Bureau of Correspondence Instruction of the University Extension Division. Foreign Language—passing equivalent elementary courses in the language offered in the General College of the University or another college in the summer prior to first enrolling in the University.

ondary school records and pre-entrance tests show unusual achievement and promise may begin some work at the second semester or sophomore level. Advanced sections for superior students are available.

EARLY DECISION

A student for whom the University is the first and only choice may receive an Early Decision on his application upon request. Such an applicant must submit by October 15 the following:

1. An application for admission;
2. A letter stating that the University is his first choice, and that, if accepted under the Early Decision Plan, he has every intention of enrolling;
3. Secondary school record through the junior year;
4. Recommendation by principal or counselor;
5. Scholastic Aptitude Test scores taken in the junior year, preferably the May test date.
6. Candidates under the Early Decision Plan will be notified by November 1st of the action of the Committee of Admissions. The candidate must accept the offer of Admissions by November 15, accompanied by the payment of the required fees and a letter stating candidate continues to abide by the conditions of the Early Decision Plan.

An acceptance under the Early Decision Plan is subject to the maintenance of a high level of academic achievement by the student in his senior year and subsequent scores on the Scholastic Aptitude Tests. Application received in the Office of Admissions after October 15 cannot be considered under the Early Decision Plan.

WOMEN STUDENTS

High school senior women students are eligible to apply and may be admitted to any program of study as freshmen. There is no restriction on the admission of women as to curricula. Quotas are assigned to the number who are applying for one of the following degree programs:

1. Fine Arts: Art, Dramatic Art, Music
2. Medical Technology
3. Pharmacy
4. Physical Therapy
5. Nursing
6. Dental Hygiene (open to North Carolina residents only)
7. Liberal Arts

All undergraduate women, however, except for bona fide residents of Chapel Hill, are required to live in University residence halls. Since

facilities for the housing of women are limited, admission of women on the freshman level will be restricted to those who are especially well-qualified. Preference is given to freshman women, transfers to the junior class, and women transfers to the School of Pharmacy. The mechanics for review of freshman and transfer women applicants are quite different from that of men, and a woman applicant must follow closely the procedure outlined in the letter of instructions accompanying each application.

TRANSFER STUDENTS

Priority in admissions is given to applicants in accordance with the academic quality of their records. A North Carolina resident who meets the minimum standards for admission to an undergraduate program cannot be guaranteed admission.

A candidate for admission by transfer from another institution must submit an application on a form secured from the Director of Admissions and at a time not later than set forth in the instructions accompanying each application.

Each applicant shall have sent to the Director of Admissions an official transcript from each college or university which the student has attended previously and any other records or letters which the University may require.

A transfer applicant, to be considered by the Committee of Admissions, must have maintained a *C* average as a minimum requirement (2.0 based on *A* grade being 4 points according to our method of computation) for all college work previously attempted and be in good standing in all respects at all colleges attended. Final decision is based on the quality of the candidate's academic record in comparison with the records of the others who apply. Those with averages of 3.0 or better will be offered available places first. Then those with averages between 2.0 and 3.0 will be admitted only if places are available. Transfer applicants from other campuses within the consolidated University of North Carolina are considered for admission on a different qualitative academic requirement. The University does not encourage transfer admission of senior students. Priority is given to applicants for transfer with junior standing except those applying to the School of Pharmacy will have equal priority for transfer to the sophomore class.

The University may refuse to admit an applicant from a non-accredited college or may admit him on a provisional basis and provide a means for the validation of some or all of the credit. The Director of Admissions will specify the terms of the validation process at the time of provisional admission. Each student from a non-accredited college will be considered on his merits and his admission or rejection is at the discretion of the Director of Admissions.

TRANSFER OF CREDIT AND EVALUATION OF TRANSCRIPTS

Work from institutions of collegiate grade accredited by the Southern Association of Colleges and Secondary Schools or similar regional associations may be transferred at full value provided the University offers comparable work. For work from schools not regionally accredited the recommendations in the current issue of *Report of Credit Given by Educational Institutions* (published by the American Association of College Registrars and Admissions Officers) will be followed.

Evaluation of transcripts is based on University requirements, not on those of the institution from which the record comes. A course completed with the lowest passing grade at another institution may not be counted as hours credit toward University graduation but may be used to meet a subject requirement. Ordinarily a grade of *C* or higher is necessary for the subject to receive both hour and course credit. Even when the transfer of credit is not involved, all previous college or university experience must be certified by transcripts or records of attendance. The University at Chapel Hill is the sole judge in accepting and evaluating credits for its academic degrees.

Any record submitted for evaluation may be rejected or partly disallowed. Validating examinations may be required in any or all subjects and may be required for work done at non-standard or non-accredited institutions. The State Department of Public Instruction determines accreditation of all the colleges in North Carolina. Elsewhere, accreditation is by state departments of education, state universities or institutions of comparable rank, or by regional accrediting agencies.

In exceptional cases, students may secure the equivalent of transfer credit by passing previously arranged special examinations in subjects in which they have systematically acquired knowledge under conditions which did not permit the earning of transferable credit.

The University accepts only sixty-four semester hours of academic credit, plus required physical education, from a junior college.

High school entrance requirements, specifically required by this University, must be satisfied before admission is granted.

NONRESIDENTS OF NORTH CAROLINA

A personal interview with a representative of the University and additional information supplementing that included in the application and transcript may be required of nonresident applicants.

ADMISSION TO UPPER COLLEGE OR SCHOOL

Students admitted to advanced standing are assigned credits equivalent to specific required or elective courses included in the various degree programs of the University. Admission to the College of Arts and Sciences or to one of the undergraduate professional schools is

based in principle on the regulations governing the transfer of General College students to the upper college or school. See "Transfer from General College," page 42, for regulations concerning students admitted after June 1, 1960. All deficiencies in the selected pattern of courses leading to a degree or in other requirements for transfer from the General College must be removed at the earliest opportunity.

EXPENSES

According to a current estimate, the average male student, if a resident of North Carolina, incurs necessary expenses approximating $857.00 for subsistence and $436.00 for tuition, fees, textbooks, and supplies during an academic year (two semesters) at the University. The estimate is based on the assumption that this "average student" rooms in a University residence hall ($232.00), spends about $2.25 daily for meals ($585), and pays laundry charges equal to deposits required of those who use the University Laundry service ($40.00). These basic subsistence costs account for approximately two-thirds of the combined necessary-expense estimate ($1293.00).

TUITION AND OTHER INSTRUCTIONAL EXPENSE

The University reserves the right to make, with the approval of the proper authorities, changes in tuition and other fees at any time.

A nonresident student must pay a higher rate of tuition than a legal resident of North Carolina. (See page 33 for information on residency.)

The following tuition charges, payable at the beginning of each semester, are required of all students in the colleges, schools, and curricula listed below in the schedule of fees:

Residents of North Carolina	$ 87.50
Nonresidents of North Carolina	300.00

See Graduate School Catalogue for tuition charges for graduate students registering for less than ten semester hours.

In addition to tuition charges indicated above, certain fees, also payable at the beginning of each semester, are required of all students. The aggregate amount of these regular fees required of a student in a particular college, school, or curriculum is shown below. Not included in these aggregates are special fees and charges for certain courses in art, English composition, applied music, French, German, and Spanish 101x and 102x, social work, and public health. Amounts of these special fees are stated in the descriptions of courses in Part IV.

Schedule of Fees

General College, College of Arts and Sciences, Schools of Business Administration, of Education, and of Journalism	$75.50
Graduate School, School of Library Science, and School of Social Work	70.50
School of Nursing	81.25
Dental Hygiene Curriculum	81.00
Medical Technology and Physical Therapy Curricula	73.75

Information concerning tuition and fees in professional schools not listed above will be found in the special catalogues of the schools.

Neither textbook costs nor breakage deposits on equipment used in some courses are included in payments made to the University Cashier. Textbooks and other individually purchased instructional materials, estimated to cost about $55.00 each semester, are made available on a cash basis, at standard prices by the University Book Exchange.

RECAPITULATION: PAYMENTS TO UNIVERSITY CASHIER

By North Carolina male resident, entering in fall semester as General College freshman, living in residence hall, and using University Laundry.

Item	*Payable*	*Amount*
Room Deposit	Upon Application for Room	$116.00[1]
Laundry Deposit	At Registration	20.00
Tuition	At Registration	87.50
Fees	At Registration	75.50
TOTAL REGULAR PAYMENTS FALL SEMESTER		$299.00

INCIDENTAL FEES

CREDIT OBTAINED BY SPECIAL EXAMINATION: A fee of $1.50 per semester hour of credit secured is required of an applicant who takes examinations for advanced standing.

TRANSCRIPT OF RECORD: One transcript is provided without charge. There is a charge of $1.00 for each additional copy.

CAP AND GOWN RENTAL FEES: Cap and gown rental fees are $4.00 for recipients of bachelors' degrees and $7.00 for recipients of masters' and doctors' degrees.

1. Each room in James and Morrison Residence Halls will have a telephone at an additional cost of $9.00 per semester per occupant. The payment required with an application for James or Morrison is $125. This amount does not include long distance tolls, which will be billed separately. Telephones cannot be provided in rooms in other residence halls.

PAYMENT OF BILLS: Bills for tuition and fees are payable at the time of registration or at the Cashier's Office according to an announced schedule beginning on the first class day of the semester or summer session. Failure to pay or to make proper arrangements for payments results in the assessment of an extra fee of $5.00.

For lateness penalty charges and partial refunds upon withdrawal, see "Regulations."

HOUSING, FOOD, LAUNDRY, AND LINEN SERVICE

The University reserves the right to approve the housing of all students whether they live on or off the campus. Each University student is required to maintain a correct local address with the University. By Trustee action the administration is authorized to establish minimum standards of health, safety, and general welfare in regard to housing and to require that students maintain their residence in quarters which comply with these standards. The University reserves the right to make changes in room rent and other charges stated in this section at any time. All charges are tentative and subject to annual cost studies.

UNIVERSITY-OPERATED FACILITIES

RESIDENCE HALL ACCOMMODATIONS—MEN: The University provides campus residence hall accommodations for approximately half of its male enrollment. Rooms are rented for the academic year, September through May. All single male freshmen are required to live on the campus or in University Square[2] except bona fide residents of the Chapel Hill area. If, for any reason, the student wishes to cancel his assignment for the spring semester, he may do so upon notification to the Housing Office on or before January 15. A new student who, upon notification of his acceptance, desires a residence hall room should send to the University Cashier a deposit of $116,[3] which covers the fall semester's room rent, a residence hall social fee of $5.00, and a key deposit of $1.00, with the reservation card which accompanies his notification of acceptance. The annual charge of $232 is payable in advance as follows: upon application for room, $116[3], for fall semester; by January 15, $116[3] for spring semester. The reservation deposit, less $10.00, is refundable on cancellations made by July 1 for the fall semester, and January 15 for the spring semester. Assignments to rooms are made in the order in which applications are received. After July 1 for the fall semester, and January 15 for the spring semester, rent payments are not refundable except for: illness which prevents enroll-

2. See page 28 for further information on University Square.
3. See footnote on page 24.

ment; withdrawal because of illness; military draft; death in the family; or dismissal for disciplinary or academic reasons. The University reserves the right to make changes in room assignments or transfer students to other residence halls during the term or semester.

RESIDENCE HALL ACCOMMODATIONS—WOMEN: Every undergraduate unmarried woman student, under twenty-three years of age, is required to occupy approved University residences, unless she lives with her parents in a bona fide home in Chapel Hill Township, or unless she holds a degree from some college. In exceptional cases permission to live elsewhere may be granted by the Dean of Women. Women in the graduate and professional schools may request rooms in Kenan Hall or reside in the town of Chapel Hill. Rooms are rented for the academic year, September through May. If, for any reason, the student wishes to cancel her assignment for the spring semester, she may do so upon notification to the Dean of Women by November 15. A charge of $25.00 is made on cancellation between November 15 and January 10.

A new woman student who desires a room should send to the University Cashier $135, which includes room rent for a semester and a social fee of $2.50, with the reservation card which accompanies her notification of acceptance. Room assignment is made by the Dean of Women, who notifies the applicant and sends further information and instructions. The normal rate in a room for two occupants is $270 per person for the regular academic year, which represents $265 rent and a $5.00 residence hall social fee, payable in advance as follows: for the fall semester, $135 with application for room; for the spring semester, $135 by January 10. The room rent for the fall semester, less $25.00, is refundable on cancellations made by July 1 for the fall semester, and by January 10 for the spring semester. After July 1 and January 10, rent payments are not refundable except for: illness which prevents enrollment or necessitates withdrawal; death in the family; or dismissal for disciplinary or academic reasons.

The University reserves the right to make changes in room assignments or transfer students to other residence halls during the term or semester.

Residents of Spencer Hall are required to board at the dining room in that residence hall at a cost of approximately $230 per semester for meals. Bills for board at Spencer Hall will be issued after registration each semester.

RESIDENCE HALL ACCOMMODATIONS—GENERAL: The University reserves the right to make changes in room assignments or transfer students to other residence halls during the term or semester.

After registration, rent for residence hall (and board at Spencer Hall) will not be refunded unless the student withdraws from the Uni-

versity during the first nine weeks of a semester because of illness, if recommended by the Director of Student Health Service, death in the family, dismissal for disciplinary or academic reasons, or military draft.

Rent does not cover occupancy during periods when the University is not officially in session.

All rooms are furnished, but students are encouraged to bring desk lamps, bed spreads, and small rugs. The University's pillow, linen, and blanket rental service is described on page 28. Students who elect to provide their own bedding should bring: four single sheets, two pillow cases, one pillow, and two blankets.

The right to occupy a room is not transferable and terminates with the expiration of the lease. Sale or transfer of a student's right to occupancy will be considered a fraudulent transaction and will result in forfeiture of the room by the lessee and the room becomes available for assignment by the University Housing Office.

The University reserves the right to make room inspections to insure compliance with rules and regulations whether or not the occupants are present.

The University reserves the right to require any student whom it considers, for any reason, an undesirable tenant to vacate a residence hall room.

The occupant of a room will be held directly responsible for all damage done to his room and its furniture.

No pets may be kept in University residence halls or housing units on penalty of forfeiture of right of occupancy. Outside aerials, cooking appliances, air-conditioning units, and other electrical equipment may not be used.

Under no conditions are firearms of any description or type to be kept in residence halls or on University property.

RESIDENCE HALL TENANCY: Students already living in a residence hall desiring to retain rooms for the next academic year must make application as follows:

Men: Pay a $10.00 deposit to the University Cashier, and file a room reservation card with the Director of Housing by a date announced by the Director of Housing. The deposit is forfeited on cancellations after June 10th.

Women: Pay $25.00 deposit to the University Cashier, and file a room reservation card with her residence hall hostess by a date announced by the Dean of Women's Office. The deposit is forfeited on cancellations after June 10th.

Room assignments will be canceled and the deposit forfeited unless rent for the fall semester is paid in full by July 1.

Room reservation for either of the two summer terms is made upon payment of the full amount of rent for one term, refundable if cancellation is received by June 1 for the first summer term, and by July 13 for the second summer term.

Housing Units for Married Students

The University has a limited number of housing units for married students. It is the general policy of the University to give priority to the applications of married graduate students.

Most of the apartments are unfurnished. Minimum rent for the newer brick apartments is $72.00 per month for one bedroom units, $82.00 per month for two bedroom apartments, including electric stoves, refrigerators, heat, and water. A limited number of two bedroom apartments are furnished and rent for $100.00.

Early application to the Director of Housing is urgently recommended. Married students, especially married foreign students, should not bring their families to Chapel Hill until their housing arrangements have been settled.

The Housing Office maintains listings of off-campus accommodations. Satisfactory arrangements for these places are best made by applying in person.

STUDENT DINING FACILITIES: In addition to the room-and-board accommodations for women residing in Spencer Hall, the University operates conveniently located cafeterias in Chase Hall, Lenoir Hall, and the Carolina Inn. The Pine Room provides a snack bar and cafeteria while the Monogram Dining Room offers table service. Well balanced meals are served at the most reasonable prices in the community for cash payment.

RESIDENCE HALL ACCOMMODATIONS—UNIVERSITY SQUARE

Privately owned and operated supervised residence halls approved for men and women are available in University Square located between Franklin Street and Cameron Avenue, just west of Columbia Street.

These halls have a cafeteria dining commons and the fee charged includes room and board. Further information may be obtained from Granville Hall, University Square, Chapel Hill, North Carolina.

Arrangements for these accommodations should be made direct with the Granville Hall Business Office.

Laundry, Linen, Pillow, and Blanket Services

LAUNDRY SERVICE: Finished laundry service at reasonable cost is provided by the University Laundry Department to students who wish to use it. An initial deposit of $20.00 is made at the beginning of each

semester. Laundry is picked up at and delivered to the students' *campus* rooming quarters (including fraternities and sororities). Any unused deposit balance is refunded at the end of the year.

ADDITIONAL LAUNDRY SERVICES: Wash-dry-fold service (nothing ironed) is available at any of the University linen rental stations. This is an economical, cash-and-carry service and is separate from the finished laundry service.

LINEN RENTAL SERVICE: For students who do not wish to provide their own linen, the University will furnish two sheets, one pillow case, and three bath towels each week on an exchange basis. This service is available at the laundry plant, the downtown University Laundry Office, and at convenient stations on the campus. A fee of $25.60, which includes a $5.00 deposit, for the school year (September through May) is payable when this service is requested.

Pillows may be rented for $1.55 a school year. Carolina blue blankets with University insignia may be rented from the laundry department for $5.50 a school year. A deposit of $11.00 is required for each blanket with a provision of $5.50 refund when blanket is returned in good condition. Blankets without the insignia are available for a deposit of $5.00 each, with provision for a refund of $2.00 when the blanket is returned.

DRY CLEANING SERVICE: Dry cleaning pick-up and delivery service is available at the University laundry stations.

FINANCIAL AID

Opportunities for financial aid, though not unlimited, are within the reach of almost every student who can show both superior academic achievement and definite financial need. The student who realizes that he will be unable to meet University expenses without assistance should determine the approximate amount of assistance needed per semester and take early initiative in seeking information from the Director of Student Aid and should file applications for the types of available aid indicated below. Most recipients of financial aid are chosen on the basis of combined financial need and academic merit.

In order to determine the financial need of each student accurately and equitably, the University participates in the College Scholarship Service (CSS) of the College Entrance Examination Board. Participants in CSS subscribe to the principle that the amount of financial aid granted a student should be based upon financial need. The CSS assists colleges and universities and other agencies in determining the student's need for financial assistance. Students seeking financial assistance

in the form of scholarships or loans are required to submit a copy of the Parents' Confidential Statement (PCS) form to the College Scholarship Service, designating the University of North Carolina at Chapel Hill (Code #5816) as one of the recipients, by 1 February. One PCS form will serve both for scholarship and/or loan application. The PCS form may be obtained from a secondary school or the College Scholarship Service, P. O. Box 176, Princeton, New Jersey 08540 or P. O. Box 1025, Berkeley, California 94704.

For more detailed information than that given below, see the separate publication *Student Financial Aid* available from the Office of Student Aid, 2 Hanes Hall.

I. SCHOLARSHIPS: Endowed scholarships listed in Part VI represent varied bases of award and a wide range of monetary value. In addition to this list there are available certain annual contributions and grants not on an endowment basis. Scholarships open to students in the schools of Dentistry, Law, Library Science, Medicine, Nursing, Public Health, and Social Work are described in special catalogues of those schools.

All applications for scholarships by undergraduates must be filed in the Student Aid Office and should be submitted no later than February 1, on the regular form prescribed by the University. The Director of Student Aid will supply forms on request.

In addition to the University application form, each scholarship applicant must send to the College Scholarship Service in Princeton, New Jersey, the Parents' Confidential Statement (see above).

The University Scholarship Committee makes annual awards in the late spring and a few others from time to time during the year. Address inquiries to the Director of Student Aid, 2 Hanes Hall, Chapel Hill, North Carolina.

II. STUDENT LOANS: The Loan Funds listed in Part VI reflect the sympathetic interest and generosity of many donors. With few exceptions, the combined resources of these funds are administered by the Student Aid Office and the Loan Office under the uniform policy and regulations stated below.

The University, within available loan funds, makes loans to students on the basis of applications showing a detailed analysis of the individual's necessary University expenses and his available income, along with a record of the applicant's academic achievements and a statement of his educational objective.

Student loans are administered subject to the following general regulations:

1. Any loan must be for demonstrated necessary educational expenses and usually shall not exceed $1,000 in any one academic year

and a total of $5,000 for any student. The Loan Fund Committee may place other limitations on loans for a particular applicant.

2. Loans will be made only to students who demonstrate need for financial assistance and capability of maintaining good standing. Financial need will be determined by the Loan Subcommittee of the Student Aid Committee on the basis of an analysis of the student's Parents' Confidential Statement (see page 30) which every applicant for a loan must submit to the College Scholarship Service at the address given above. Entering students may apply provided they have good to superior academic ability.

3. Most loans bear 3 per cent interest. No payments on principal shall be required and no interest shall be charged while a student is enrolled on a full-time basis in the University of North Carolina at Chapel Hill. At the request of the borrower, interest and payments on principal may be waived for a period of not more than three years while the borrower is in military service or in the Peace Corps, or while he is enrolled in another institution of higher learning, provided proper certification is furnished the Student Loan Office. In accepting this waiver the borrower agrees to notify the Student Loan Office of his address and status on July 1 of each year.

4. Most loans may be made without collateral and without endorsement to students who are deemed competent to execute a legal contract in the State of North Carolina.

5. Loans are to be repaid according to a periodic plan of repayment agreed upon by the borrower and the Student Loan Office. Loans must be repaid within ten years. The period of repayment may be extended under justifiable circumstances.

Students may obtain information about the Federal Guaranteed Loan Program for their home states at the Student Aid Office. However, all students should apply for such loans directly to the lending agencies in the areas of their home residence. The National Defense Loan Program is administered for the University by the Student Aid Office according to the policies provided in federal law and the regulations of the University.

Inquiries about loans should be directed to the Director of Student Aid, 2 Hanes Hall, Chapel Hill, North Carolina. (See the listing of individual funds in Part VI.)

III. SELF-HELP WORK: There are part-time jobs available for several hundred students wishing to earn a part of their expenses. Students work in the libraries, dining halls, residence halls, book stores, gymnasium, laboratories, and other University divisions and offices.

Jobs off campus, in Chapel Hill homes and business firms, are not assigned by any committee or division of the University. Such jobs are

secured by the student's effort, the University's Director of Student Aid helping wherever possible.

Most University part-time jobs for students are arranged by the Student Aid Committee for those students who are, in the judgment of the Committee, most urgently in need of help, on the basis of each applicant's scholastic achievement, financial need, good character, and willingness to work. Although the Committee gives priority to those students who genuinely need help, it tries, through the Student Aid Office, to help any student find part-time work who seeks assistance in locating such work.

Part-time jobs, on and off the campus, require real work, punctuality, and dependability.

Some students find it difficult to do part-time work and carry successfully a full schedule of academic work. In general, first-year students are urged, if their financial needs permit, to devote full time to their studies and related activities.

All requests for information about and applications for self-help work should be mailed to the Director of Student Aid, 2 Hanes Hall, Chapel Hill, North Carolina.

IV. FEDERAL FINANCIAL AID: The University participates in several federally supported programs of student financial aid. The following are available for all students and are administered according to law by the Student Aid Office: the National Defense Student Loan Program, Educational Opportunity Grants and the College Work-Study Program.

Detailed information about these programs may be secured from the separate publication *Student Financial Aid* available from the Office of Student Aid, 2 Hanes Hall.

REGULATIONS

The personal conduct of the University student is subject to the moral and legal restraints found in any law-abiding community. The Honor Code and the Campus Code are positive forces for good citizenship, not exemptions from its sterner responsibilities. Though the faculty holds an expressly stated mandate from the Board of Trustees to dismiss students known to be guilty of offenses against the peace and moral tone of the campus, the exercise of this authority is rarely necessary.

University regulations, therefore, are not specifications for acceptable conduct or detailed lists of offenses subject to penal action. They are intended to provide an informational basis for systematic procedures and equitable decisions in many situations involving individual students and officers of the University.

In publishing these regulations, the University does not recognize any implied contract as having validity beyond the succeeding academic year. The faculty reserves the right to make changes in curricula and in regulations when in its judgment such changes are for the best interest of the students and the University. Ordinarily a student may expect to secure a degree by meeting the requirements of a curriculum specified in the catalogue currently in force when he first entered the University, or in any one subsequent catalogue published while he is a student; but the University is not obligated to fulfill this expectation or to offer in any particular year a course listed in the catalogue.

TRANSACTIONS INVOLVING RECORDS AND PAYMENTS

REGISTRATION: All students are required to register in accordance with the procedure established for the current year. New students must present evidence that their medical reports have been properly certified to the Director of Student Health Service. A student registering later than the time designated for his registration must pay an additional fee of $5.00 for delayed registration. If the delay results from circumstances clearly beyond the student's control, an appeal may be made in writing to the Chancellor, provided that the appeal shows sufficient justification for the delay to secure approval by the dean of the division in which the student is enrolled.

Registration for credit for any course is limited to the first four days of instruction unless the late registration is approved by the instructor of the course and the student's dean. Changes in registration are limited to the same four-day period and must be made in accordance with the established procedure, which requires approval of the faculty adviser and permission of the dean.

FALSE INFORMATION: Information filled in on admission and registration forms is instrumental in securing for the student a priority or classification of value. False statements will be considered violation of the Honor System.

A student must make application and register in his legal name as shown on birth certificate or court order authorizing a change. Concealment of required information is falsification of the record.

RESIDENCE STATUS FOR TUITION PAYMENT: The tuition charge for legal residents of North Carolina is less than for nonresidents. A legal resident of North Carolina is one who has his domicile in this state. It is important that each applicant for admission and each enrolled student know his residence status for tuition payment and understand the regulations governing residence status. The following regulations cover most factual situations:

1. A person twenty-one years of age or older is not deemed eligible for the lower tuition rate unless he has maintained his legal residence

in North Carolina for at least the six months next preceding the date of his first enrollment in an institution of higher education in this state.

2. The legal residence of a person under twenty-one years of age at the time of his first enrollment in an institution of higher education in this state is that of his parents, surviving parent, or legal guardian. In cases where parents are divorced or legally separated, the legal residence of the father will control unless custody of the minor has been awarded by court order to the mother or to a legal guardian other than a parent. No claim of residence in North Carolina based upon residence of a guardian in North Carolina will be considered if either parent is still living unless the action of the court appointing the guardian antedates the student's first enrollment in a North Carolina institution of higher education by at least twelve months.

3. The residence status of any student is determined as of the time of his first enrollment in an institution of higher education in North Carolina and may not thereafter be changed except: (a) in the case of a nonresident minor student at the time of his first enrollment whose parents have subsequently established legal residence in North Carolina; and (b) in the case of a resident who abandons his legal residence in North Carolina. In either case, the appropriate tuition rate will become effective at the beginning of the semester or term next following the date of change of residence status.

4. The legal residence of a wife follows that of her husband, except that a woman student currently enrolled in this institution as a resident may continue as a resident even though she marry a nonresident.

5. Military personnel attached to military posts or reservations in North Carolina are not considered eligible for the lower tuition rate unless they have maintained a legal residence in the state for at least the six months next preceding the date of first enrollment in an institution of higher education in the state.

6. Aliens lawfully admitted to the United States for permanent residence who have established a legal residence in North Carolina according to paragraphs numbered 1, 2, or 4, above, are eligible for the lower tuition rate.

7. Ownership of property in or payment of taxes to the state of North Carolina apart from legal residence will not qualify one for the lower tuition rate.

8. Discretion to adjust individual cases within the spirit of these regulations is lodged in the Vice-President and Finance Officer of the University.

Any student or prospective student in doubt concerning his residence status must bear the responsibility for securing a ruling by stating his case in writing to the Chancellor.

WITHDRAWALS: When a student withdraws from the University, officially or unofficially, before the end of a regular semester, then in determining the student's eligibility for readmission

A. that semester *shall be counted* as a semester in residence
   1. if withdrawal occurs as a result of disciplinary action;
   2. if withdrawal occurs after nine full weeks of classes have elapsed in the semester, regardless of the student's standing in his classes;
   3. if at the time of withdrawal at any point in the semester, the student is reported as below passing in two or more of the courses he is taking (in such cases, the grade *F* is recorded on all courses in which the student is below passing);

B. that semester *shall not be counted* as a semester in residence and no grades will be recorded.
   1. if official withdrawal occurs for medical reasons on the recommendation of the Director of Student Health Service;
   2. if withdrawal occurs before the end of the ninth week of classes and the student is reported to be below passing in not more than one of the courses he is then taking.

A student withdrawing within the first week of the semester is charged only a registration fee of $8.25. After the first week, refunds for tuition and fees will be made on a pro-rata basis. The student pays one-tenth of his semester bill for each week he remains in residence. No refunds will be made after the end of the ninth week.

TRANSCRIPTS OF RECORD: A statement of honorable dismissal will not be granted to students whose conduct and character would not entitle them to remain in the University. In every transcript full mention will be made of any probation, suspension, or other temporary restriction imposed for unsatisfactory conduct and still in force when the statement is made.

A statement of record includes all significant recorded information concerning the student's admission, classification, and scholarship. No partial or incomplete scholastic record will be given. If the student's scholarship has been such as to prevent his continuance in the University or to make him subject to any probation, suspension, or other temporary restriction still in force at the date of the record, a plain statement of all such facts will be included. Clear information will be given concerning the grading system and number of class and laboratory hours per week devoted to each course, etc.

REGISTRATION OF ADDRESS: Every student is required to keep on file in the Office of Records and Registration the complete and correct address of his places of residence, both home and local.

ACADEMIC REQUIREMENTS

Unless otherwise stated, the following regulations uniformly govern the academic progress of the student from his first year in the General College through his final semester in the College of Arts and Sciences or one of the three undergraduate professional schools: Business Administration, Education, and Journalism. Variations in the requirements of the colleges and schools may be found in Part III.

EXPLANATION OF TERMS: Quantitative requirements are expressed in terms of *courses* and *semester hours*. A *full course* is one representing three or more semester hours of credit, typically earned in a class which meets for one hour on three alternate days of each week during the semester. Qualitative requirements and achievement are expressed in terms of letter grades and quality-point averages. For the value of letter grades and the computation of averages, see pages 40 and 41.

ACADEMIC WORK LOAD: A student in the General College must take at least five full courses, except by permission of the dean. He may take six courses, representing not more than twenty semester hours, if he made a quality-point average of 2.0 the preceding semester. The maximum load of six courses, representing more than twenty semester hours may be taken only by a student making a quality-point average of 3.0 the preceding semester.

Only half credit is allowed for a required freshman course taken after beginning the junior year or a required sophomore course after beginning the senior year.

A student regularly enrolled in the College of Arts and Sciences, the School of Business Administration, the School of Education, or the School of Journalism must take at least fifteen semester hours of work. He may take no more than seventeen unless he made a quality-point average of 2.0 the preceding semester; no more than eighteen unless he made an average of 3.0; and no more than twenty in any case. If needed for graduation, however, the load of twenty hours may be taken by a senior having an over-all and preceding semester average of 2.0.

When a student's work load is decreased by dropping a course, his dean will determine whether he may remain in residence with less than the minimum load.

CLASS ATTENDANCE: The following legislation by the Faculty Council gives each instructor the authority to prescribe attendance regulations for his class or classes:

"Regular class attendance is a student obligation, and a student is responsible for all the work, including tests and written work, of all class meetings. No right or privilege exists which permits a student to be absent from any given number of class meetings.

"Instructors will keep attendance records in all classes. If a student misses three consecutive class meetings, or misses more classes than the instructor deems advisable, the instructor will report the facts to the student's academic dean for appropriate action."

The instructor is required by the foregoing legislation to keep a record of attendance and to report to the appropriate dean the name of any student absent from three consecutive meetings of a class. In prescribing attendance regulations for his class or classes, each instructor is required to observe the following administrative regulations:

"The appearance of a student's name on the Infirmary list constitutes an excuse for the student for absences from classes during the period the student is in the Infirmary. This list is circulated to all deans of colleges and schools having undergraduate students. In case of doubt the instructor may check with the office of the student's dean.

"Students who are members of regularly organized and authorized University activities and who may be out of town taking part in some scheduled event are to be excused during the approved period of absence. Notification of such an absence must be sent by the responsible University official to the office of the student's dean where instructors may, should they be in doubt, consult the list."

Dropping or Quitting a Course: The grade of a student who drops or is dropped for other than disciplinary reasons from a course in which he is failing at that time is recorded as an *F* unless, in the judgment of his dean, his failure was caused by circumstances beyond his control.

The grade of a student who quits a course without the permission of the dean of his school or college is recorded officially as *F*.

The dean of the school or college in which the student is registered will determine whether a student may remain in residence after having been dropped from or having quit one or more courses.

Regular Examinations: Final written examinations are required in all courses. (Exceptions, based upon the special types of work done in the course, must have advance approval of the Provost.) A general schedule, announced several weeks before the end of the semester, sets the time for each examination; and no examination (except for laboratory sections) may be held at any time other than that specified in the general schedule, which cannot be changed after it has been announced. No examination-type quizzes may be given during the last six days of classes before the beginning of scheduled examinations. No examination may be held later than 7:00 p.m. Only examinations re-

quiring an exceptional portion of practical work should be longer than three hours.

All regular final examinations must be held in Chapel Hill. In exceptional cases a student may make application to his dean for permission to take examinations *in absentia.* (A fee of $10.00 is charged for each examination so taken.)

A student absent from an examination, or present and failing to submit an examination paper, is given a course grade of *Abs.,* which is equivalent to *F* unless an official excuse and permission to take a special examination are secured from the Office of Records and Registration. (See "Special Examinations," below and continued on page 39.)

The final examination in any course may be taken only by regularly enrolled members of the class whose registration has been certified by class tickets and by students certified as eligible to take a special examination in that course. The certifying authority is the Office of Records and Registration.

Each student taking an examination is required to sign a full and explicit pledge, certifying that he has neither given nor received aid during the examination. The exact pledge statement should be in accord with student Honor Council requirements. The instructor will not report a grade for an unpledged paper.

CREDIT BY EXAMINATION: Students who have gained through independent study or experience knowledge of the content of courses offered by the University for undergraduate credit may, with the approval of the department and school or college involved, receive credit for such courses by special examination. Such an examination must be taken before the beginning of the last semester or full summer session before graduation, and the approval of the department and school must be received at least thirty days before the examination is taken.

SPECIAL EXAMINATIONS: New students seeking course credit by examination or removal of entrance conditions may arrange to take special examinations in 1967 as scheduled below.

Tuesday, September 12

8:30 A.M.

Economics
Romance Languages
Zoology

11:00 A.M.

Education
English
German

2:00 P.M.

Geography
Geology
Psychology
Art
Physical Education

4:30 P.M.

Comparative Literature
Greek
Physics
Sociology

Wednesday, September 13

8:30 A.M.	11:00 A.M.
Botany	Chemistry
Latin	Business Administration
Journalism	Philosophy
	Dramatic Art
2:00 P.M.	**4:30 P.M.**
Music	Any examinations made
History	necessary by conflicts
Mathematics	
Political Science	

A student who has received in the University a course grade of *Cond.* may take a special examination as scheduled above, or he may take it with a class completing the same work at any regular examination period within one calendar year after the end of the semester in which the *Cond.* was assigned, provided there is no conflict with a regular examination in a course he is currently taking. A senior in his last semester of residence may take a special examination for this purpose by special arrangement between the instructor assigning the *Cond.* and the student's dean.

Special examinations for officially excused absentees from regular examinations must be taken within one calendar year after the date of absence. Suitable times will be fixed by the Office of Records and Registration and the instructors concerned. (Graduate students may remove the grade of *Abs.* within one calendar year after the date of their next registration in the University.)

Special examinations for making up regular examinations missed by excused abentees will be graded according to the usual system. All other special examination papers will be marked *Passed* or *Failed.*

RECORDS AND REPORTS OF SCHOLASTIC ACHIEVEMENT

At the close of each semester the Office of Records and Registration receives instructors' reports and compiles, for all courses taken by each student, the number of semester hours and the qualitative grades assigned by his instructors. Shortly thereafter a report of the student's achievement during the summer is mailed to his parents or guardian.

To be eligible for the Dean's List (Honor Roll), a student must make a *B* average with no grade lower than a *C* and be carrying an academic load of 15 or more semester hours exclusive of required physical education courses.

EXPLANATION OF MARKS: For undergraduates passing grades are *A* (Excellent), *B* (Good), *C* (Fair), and *D* (Passed). For graduate students, passing grades, *H, P,* and *L,* are assigned. The grade of *F*

(Failed) indicates that the student must repeat the course in order to receive credit for it.

The abbreviations *Cond.* (Condition), *Inc.* (Work Incomplete), and *Abs.* (Absent from Examination) indicate that the course will be graded *F* unless the particular deficiency is removed within twelve months. Passing a special examination changes the *Cond.* to *D.* An *Abs.,* officially excused or an *Inc.* may be removed without restriction on the grade assigned by the instructor.

Attachment of the symbol *cc* to any letter grade indicates marked deficiency in English composition. The *cc* permits temporary use of the qualitative grade in maintaining eligibility for continued residence, but final credit for the course and clearance for graduation will not be allowed until the composition condition is removed. A *cc* may be removed in two ways: 1. By successfully completing English C, a non-credit Writing Laboratory course. 2. By completing, with a grade of *C* or better, English Oc, a non-credit correspondence course.

APPEALS FROM COURSE GRADES: A student, after conference with the instructor concerned, may present in writing to the dean of his school an appeal from a course grade. No appeal may be made after the last day of classes of the next succeeding regular semester. The dean will refer the appeal to the administrative board of his school and the chairman of the department concerned. No change of grade will be made except as a result of the administrative board's decision, which is final.

ACADEMIC ELIGIBILITY

CONTINUED RESIDENCE: In order to remain in residence at the University, undergraduate students in the Division of Academic Affairs admitted after June 1, 1960, must meet the following quality-point average requirements at the beginning of the indicated semester of college work:

Semester	*Minimum Requirement*
3	1.25
5	1.50
7	1.75
9	1.90

Regulations in effect for students admitted before June 1, 1960, may be found in previous editions of the *General Catalogue;* however, the above requirements are optional for students admitted prior to that date provided they have been in continuous residence since admission.

In the computation of a student's average, one semester hour of work passed with a grade of *A, B, C, D,* or *F* is given the numerical value of 4, 3, 2, 1, or 0, respectively, which is then multiplied by the number of semester hours represented by the course. The resulting

product is the number of quality points earned by passing the course with the grade received.

The quality-point average for a semester or given period is ascertained by adding the quality points earned in all courses for this purpose and dividing this total by the number of semester hours represented by these courses, including any courses failed. Courses taken to make up entrance deficiencies and courses transferred from another institution are not included in the quality-point totals.

The academic eligibility of any student, who has been out of the University for any reason and is applying for readmission, is determined on the 4, 3, 2, 1, 0 quality-point system. Readmission of students to any undergraduate college is permitted only when the applicant for such readmission meets the applicable requirements of the 4, 3, 2, 1, 0 quality-point system, i.e.:

1. To return for a third or fourth semester of college work, an average of 1.25 on all work undertaken in the University;
2. To return for a fifth or sixth semester, a 1.50 average;
3. To return for a seventh or eighth semester, a 1.75 average.
4. To return for a ninth or tenth semester, a 1.90 average.

It should be carefully noted that the readmission requirements stated above are based on (1) the total number of academic terms in college, both here and in other institutions and (2) the quality-point average achieved on courses taken in the University without regard to grades earned elsewhere.

Also, it must be noted that a former student applying for readmission after attending another institution must be considered as a transfer student from the other institution and must therefore have at least a 2.0 *(C)* average on all work taken in, and be eligible in all respects to return to, other institutions attended since leaving the University.

Readmission is not automatic in any case; each applicant is considered carefully in the light of all attendant circumstances, including space limitations within the University.

Students readmitted on this basis will thereafter be continued in the University only as long as they continue to meet the applicable requirements of the quality-point system stated above.

APPEAL FOR READMISSION: Under exceptionally extenuating circumstances clearly beyond the control of the student and upon the recommendation of the student's dean, an appeal from the foregoing eligibility requirements may be considered by the appropriate readmissions committee.

RESTORATION OF ELIGIBILITY: Eligibility for continued residence or for readmission may be restored only by the completion of sufficient work by a student in the Summer Session of The University of North

Carolina at Chapel Hill or through correspondence courses of the University at Chapel Hill to enable him to attain the required quality-point average.

Restoration of eligibility by work done at another institution *is not permitted.* Work undertaken by anyone at another institution, while ineligible to be in residence in the University at Chapel Hill, may be accepted toward a degree at this institution, once eligibility is restored by the two methods stated above.

INTRA-UNIVERSITY TRANSFERS: A student who fails to qualify for readmission or continued residence may not be readmitted to another college or school of the University. A student in residence, academically eligible to continue, may effect a transfer from one school or college in the University only when the transfer meets the applicable requirements of the 4, 3, 2, 1, 0 quality-point system, as follows:

1. To transfer for a third semester of college work, an average of 1.25 on all work undertaken in the University;
2. To transfer for a fourth or fifth semester, a 1.50 average;
3. To transfer for a sixth or seventh semester, a 1.75 average;
4. To transfer for an eighth or later semester, a 1.90 average.

Students transferred on this basis will thereafter be continued in the University only so long as they continue to meet the applicable requirements of the new quality-point system.

APPLICATION FOR READMISSION: A student who has withdrawn from the University during a regular term or who has been out due to academic ineligibility or for any other reason must apply to the Director of Admissions for readmission.

TRANSFER FROM GENERAL COLLEGE: A student will be transferred to an upper college during or immediately after his fourth semester provided he has a quality-point average on all work taken at the University of 1.50 or higher. A student may be transferred at his request at the end of his first year provided he has a quality-point average of 3.0 or higher and his transfer is approved by the college of his choice.

A professional school, through its administrative board, may specify required minimum grades for General College courses that are to be counted toward the student's major or as prerequisite to his major field of study.

ADVANCEMENT IN CLASS RANK: The passing of at least 24 semester hours is required for rank as a sophomore; at least 52 for rank as a junior; and at least 90 for rank as a senior.

ELIGIBILITY FOR GRADUATION: The candidate for graduation must meet all requirements for his degree as defined by the college or school which awards it. *The last full year of work for the degree must have*

been done in residence at the University. He must have a quality-point average of 2.0 or better on the courses he has taken in the University, and he is required to achieve this average in a total number of semester hours not to exceed 45 beyond the minimal hours required for the graduation of a student with his major field of study.

PARTICIPATION IN ACTIVITIES

FRATERNITIES: A standing committee of the faculty maintains particular interest in the academic performance of the members of social fraternities and sororities, works with the Interfraternity and Panhellenic Councils on matters of concern to the University and affiliated students, and is alert to the conduct of such students. Eligible students may join fraternities after registration at the opening of any semester under the conditions and regulations currently in effect. Women students may not join sororities until their sophomore year.

ATHLETICS, DEBATING, DRAMATICS, MUSIC, AND OTHER ACTIVITIES: Student eligibility to participate in extracurricular activities is determined by conferences and associations to which the University belongs and by its own regulations.

Absence from the University for the purpose of participating in activities will not be permitted if the student's parents (or guardian) object.

No team or club will be allowed to be absent more than ten class days in any semester.

Part Three

THE COLLEGES AND THE SCHOOLS

DIVISION OF ACADEMIC AFFAIRS

JOSEPH CARLYLE SITTERSON, Ph.D., *Chancellor*
CLAIBORNE STRIBLING JONES, Ph.D., *Assistant to the Chancellor*
C. HUGH HOLMAN, Ph.D., *Provost*

The General College, the College of Arts and Sciences, six professional schools (Business Administration, Education, Journalism, Law, Library Science, Social Work), and the Summer Session are described in the following pages. (Library, extension, and other special services included in the Division are described in Part V.)

Under the title of each college and school is listed the name of its dean, together with faculty associates or assistants who share regularly the responsibilities of the dean's office. Administrative boards are listed in Part VI.

The Committee on Instructional Personnel serves as an advisory committee of the Division.

Special catalogues containing further information are issued by the professional schools and the Summer Session.

THE GENERAL COLLEGE

JOHN CHARLES MORROW III, Ph.D., *Dean*
GEORGE EDWARD SHEPARD, Ed.D., *Associate Dean*
SAMUEL GILL BARNES, Ph.D., JAMES ROY CALDWELL, Ph.D., JOEL J. CARTER, Ph.D., MELVIN ARTHUR CHAMBERS, Ph.D., WALTER ROBERT FALLAW, JR., Ph.D., EDWARD MICHAEL GALLIGAN, Ph.D., DONALD CHARLES JICHA, Ph.D., JOSEPH RAMON JONES, Ph.D., MARY TURNER LANE, Ed.D., DAVID THEODORE LAPKIN, Ph.D., LILLIAN YOUNGS LEHMAN, Ph.D., ANCEL CLYDE MEWBORN, Ph.D., RICHARD HILL ROBINSON, JR., LL.B., FREDERICK CARLYLE SHEPARD, Ph.D., WILLIAM ROBERT SHERRARD, Ph.D., WILLIAM RINGGOLD STRAUGHN, Ph.D., JAMES ANDREW WILDE, B.A., *Advisers*

All freshmen and sophomores, except those in the schools of Nursing and Pharmacy[1] and in the Dental Hygiene curriculum, are enrolled in the General College. Some of these students will have entered the University with definite academic or professional goals in mind; from the various programs offered in General College, such a student will probably choose one which leads to the degree of Bachelor of Arts (with a major in any one of about thirty academic departments, professional schools, and special curricula) or to the degree of Bachelor of Science in any one of more than a dozen specified academic and professional areas. He may choose a program which best qualifies him for admission to an advanced professional school, or his ultimate educational goal may be reached after one or more years of graduate study.

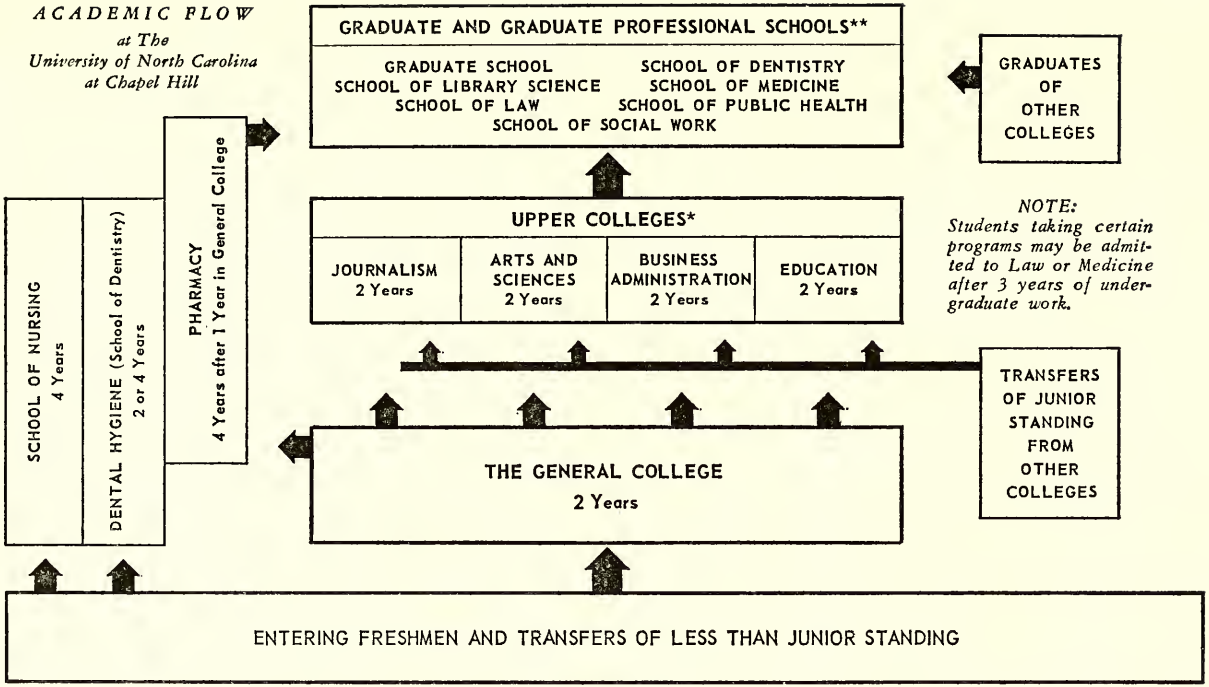
Many students, on the other hand, enter the University with only tentative plans for long-range programs. For this large group, as well as for those whose original plans are changed by circumstances or shift of interests, the General College provides a basic pattern of required courses and electives, to make possible any necessary change of program, usually without loss of time or credit.

Each student in the General College receives the personal assistance and encouragement of his adviser (a regular, full-time member of the University faculty) in selecting courses, maintaining required scholastic standards, and planning a complete educational program. Every effort is made to place each student in classes appropriate to his level of pre-college preparation and achievement.

A student will be transferred to an upper college during or immediately after his fourth semester provided he has a quality-point average on all work taken at the University of 1.50 or higher. A student may be transferred at his request at the end of his first year provided he has a quality-point average of 3.0 or higher and his transfer is approved by the college of his choice.

1. A student entering the five-year program of the School of Pharmacy is enrolled in the General College during his first year at the University.

ACADEMIC FLOW
at The
University of North Carolina
at Chapel Hill



**The junior and senior years of the Physical Therapy curriculum are administered by the School of Medicine.*

***Admission may be granted if the student meets the requirements of and is accepted by the individual school.*

THE GENERAL COLLEGE PROGRAM: BASIC PATTERN

With the exceptions and limitations noted hereafter, all General College students are required to complete in their freshman and sophomore years a program of twenty selected courses as well as the required courses in physical education (4 semesters). The twenty courses are ordinarily distributed as follows:

English
1, 2, 21

Social Sciences
Modern Civilization 1, 2, and one other

Natural Sciences
3 courses (one must be physical, one must be biological, the third may be either or may be sophomore math)

Foreign Language
Through 21 (if continuation of high school language); 1, 2, 3, 4 (if new language is elected)

Mathematics or Latin or Greek or Logic

Mathematics (two courses) or Latin or Greek (two courses in either) or Philosophy 21, 31 or
Philosophy 21 or 31 and one course in mathematics

Electives

6 courses which in some programs may be freely chosen by the student from the list of electives (see page 56) and in other programs will include specified courses required for a particular degree.

(See page 59 for identification of fine arts courses, humanities courses, natural science courses, and social science courses.)

The General College requirements for the various undergraduate degree programs are shown on the following pages, with the several degrees listed in alphabetical order. In each case there is a reference to a subsequent page in this catalogue or to a separate catalogue where a statement of the four-year requirements for that degree will be found. Particular notice should be taken that (1) Degree programs in the Natural Sciences generally require freshman mathematics, (2) students who choose Greek or Latin instead of freshman mathematics must satisfy the foreign language requirement with a modern language (French, German, Italian, Portuguese, Russian, or Spanish), (3) some Bachelor of Science programs limit the choice of foreign language, (4) Bachelor of Fine Arts, Bachelor of Music, and Bachelor of Music Education programs vary somewhat from the basic pattern of General College requirements given above (see page 53), and (5) two years of naval science completed in the General College will count as two elective courses of the twenty courses required in the freshman and sophomore years. See "Aerospace Studies" and "Naval Science" for full information on officer-training programs.

GENERAL COLLEGE REQUIREMENTS AND CREDITS FOR ENTERING UNDERGRADUATES

Credit by Placement

ENGLISH (The requirement is English 1, 2, 21).

If the student is placed in English 2 or 21 and earns a grade of *C* or better in that course, then credit without grade is awarded for the omitted course (s). A grade of *D* in the first course will exempt the student from taking the omitted course (s), but will not entitle him to credit for the omitted course (s).

MATHEMATICS (The requirement is two semesters of mathematics or of Latin or of Greek or of logic; or one semester of logic and one of mathematics).

If the student is placed in Mathematics 31 and earns a grade of *C* or better in that course, then credit without grade is awarded for Mathematics 15. If the student placed in Mathematics 31 earns a grade of *D* in that course, the freshman Mathematics requirement is satisfied, but he will receive no credit for Mathematics 15.

Students placing in Mathematics 32 or 33 will be awarded credit for the omitted courses (15, 31, 32) or exemption without credit on the same basis as above. A Mathematics course used to meet the freshman requirement may not be counted also as a substitute for the third General College science course.

FOREIGN LANGUAGE (The requirement is Foreign Language 1, 2, 3, 4 in a language other than one in which the student has two or more units of high school credit; or Foreign Language through 21 in a language in which the student has two or more units of high school credit).

1. Students lacking two or more units of high school credit in one foreign language will meet the requirement by completing Foreign Language 1, 2 without credit and courses 3, 4, 21 in the same language (or 1, 2, 3, 4 in a different foreign language) with credit.

2. The student with two or more units of high school credit in a foreign language will meet the requirements: by completing Foreign Language 1, 2, 3, 4 in a language in which he does not have two or more units of high school credit (Language 4 being counted as a General College elective) or by completing Foreign Language 21 or higher (in a language in which he has two or more units of high school credit) in one of the following ways:

(a) if he is placed in Foreign Language 1, then full credit is awarded for (and the requirement is met by completing) Foreign Language 1, 2, 3, 4, 21 (Courses 4 and 21 being counted as G.C. electives).

(b) if he is placed in Foreign Language 3, then the requirement is met by completing Foreign Language 3, 4, 21.

(c) if he is placed in Foreign Language 4, 21, or higher, then the requirement is met by completing Course 21 or the higher course. A grade of *C* or better on the first course taken will entitle the student to credit without grade for the omitted courses (3, or 3 and 4, but not more). A grade of *D* in the first course taken will exempt the student from taking the omitted course (s), but will not entitle him to any additional credit.

3. Students lacking two or more units of high school credit in a language may take the placement examination in that language if they have acquired proficiency in the language through other means. If thus placed in Foreign Language 3, the high school deficiency (if any) in language will be deemed removed; or, if there is no high school deficiency, then credit for Foreign Language 1 and 2 will be awarded upon completion of Course 3 with a grade of *C* or better. If thus placed higher than Course 3, then in addition to deficiency-removal or credit for 1 and 2 as above, there will be awarded credit for the omitted courses (3, or 3 and 4, but not more).

4. A foreign student may not receive credit for Courses 1, 2, 3, 4 (nor for any conversation or composition courses) in his native language; he may, however, receive credit for literature and/or civilization courses in that language. Foreign students will be relieved of the foreign language requirement upon completion of English 1, 2 and 21.

Credit by Examination

Any student may earn credit for a course by successful completion of an "advanced standing" examination in that course administered by the department concerned, *provided* that advance approval to take the examination has been granted by the department concerned and by the student's dean (see page 38). Credit so earned will entitle the student to additional credit and/or deficiency-removal on the same basis and to the same extent as provided for under "Credit by Placement" above, but credit for the course in which the examination has been taken will not be contingent upon completion of further work in the subject.

Credit by CEEB Advanced Placement Examination

A score of 3 or higher on any advanced placement examination of the College Entrance Examination Board will entitle the student to credit for the comparable University course (s) as determined by the Director of Admissions in consultation with the Chairman of the appropriate department. Such credit will not be contingent upon the completion of further work in the subject.

THE FRESHMAN AND SOPHOMORE HONORS PROGRAM

For exceptionally well-qualified students in the General College, a program of honors study is provided under the direction of the Faculty Council on Honors. This program is invitational and highly selective. To the Freshman Honors Program the Council each year appoints about sixty entering students who are considered the most promising members of their class. These students are placed in special, reserved sections in their required General College courses in modern civilization, English, and mathematics. In most other courses, they are placed in advanced (or A) sections. The advanced sections provide special, coordinated instruction by selected members of the faculties of the sponsoring departments. Drill in fundamentals is left largely to the individual students in these sections, and major emphasis is placed on systematic analysis of basic concepts and theory and on individualized reading and research projects. Members of the freshman honors group are expected to maintain a 3.0 *(B)* average; students in the regular General College program who have achieved high academic standing (generally a 3.5 average) may be invited to join the honors group during the year. All those who successfully complete the Freshman Honors Program, and other students who demonstrate outstanding ability, are invited to participate in the Sophomore Honors Program, in which they continue to enroll in advanced sections and are directed toward programs of departmental honors in the upper colleges. Successful completion of each phase of the General College program of honors study is entered on the student's record, along with other academic distinctions.

ADVANCED SECTIONS

Several departments provide advanced sections in many of the courses offered to students in the General College. Except for those reserved for students in the honors programs, these advanced sections are open to all students in the General College who maintain a *B* average, or who have demonstrated outstanding ability in some particular field or fields of study, and eligible students are encouraged to register for advanced sections so that they can benefit from the more challenging programs of study.

Advanced sections are now offered by the departments in the following courses:

Chemistry 11, 21, 43
Economics 31, 32
French 1, 2, 3, 4, 21
German 1, 2, 3, 4
Greek 1, 2
History 48, 49, 71, 72
Latin 1, 2, 3, 4, 21
Mathematics 31, 32, 33, 36
Modern Civilization 1, 2
Physics 20, 26, 27
Political Science 41, 52
Psychology 26
Sociology 51
Spanish 1, 2, 3, 4, 21

Information about the Freshman and Sophomore Honors programs, and about the advanced sections in various courses, will be provided by the adviser to honors students in the General College.

GENERAL COLLEGE REQUIREMENTS OF UNDERGRADUATE DEGREE PROGRAMS

Bachelor of Arts

(See also page 60.)

English 1, 2, 21; Modern Civilization 1, 2, one other social science; foreign language 3, 4, 21 (or 1, 2, 3, 4); three natural sciences (or two with sophomore mathematics), including at least one biological and one physical science; two courses in freshman mathematics, or in Greek or Latin or logic, or one course in mathematics and one in logic; six additional courses; required physical education. (See departmental listings in "Academic Departments" for major requirements in the College of Arts and Sciences for the Bachelor of Arts degree.)

Bachelor of Arts and Laws

(For complete program see page 65.)

Bachelor of Arts in Education (Elementary)

(See also page 80.)

English 1, 2, 21; Modern Civilization 1, 2; History 71; foreign language 3, 4, 21 (or 1, 2, 3, 4); three natural sciences, including at least one biological and one physical science; mathematics 17, 18; six additional courses, including History 72 and Music 41; required physical education.

Bachelor of Arts in Education (Secondary)

(See also page 77.)

English 1, 2, 21; Modern Civilization 1, 2; foreign language 3, 4, 21 (or 1, 2, 3, 4); three courses in natural science or sophomore mathematics, including at least one biological science and one physical science; two courses in freshman mathematics, or in Greek or Latin or logic, or one course in mathematics and one in logic; seven additional courses, including at least one from anthropology, economics, history, philosophy, political science, or sociology and including, for those preparing to teach social sciences in high schools, History 71, 72 and Political Science 41; required physical education.

Bachelor of Arts in Journalism

(See also page 83.)

Same General College requirements as for Bachelor of Arts, above, except that Political Science 41 is required and the introductory courses in two of the following three departments are required: economics,

psychology, and sociology. Psychology 26 satisfies part of this requirement as well as meeting the biological laboratory science requirement.

Bachelor of Fine Arts (in Art)
(See also pages 63, 122.)

English 1, 2, 21; Modern Civilization 1, 2; foreign language 3, 4, 21 (or 1, 2, 3, 4); two natural sciences (one biological, one physical); two courses in freshman mathematics or in Greek or Latin or logic, or one course in mathematics and one in logic; art courses as follows: (History) 30, 38, 35 or 36 or 37, (Studio) 44, 46, 49, 66, 63 or 86; required physical education.

Bachelor of Fine Arts (in Dramatic Art)
(See also pages 63, 168.)

English 1, 2, 21; Modern Civilization 1, 2; foreign language 3, 4, 21 (or 1, 2, 3, 4); two natural sciences (one biological, one physical); two courses in freshman mathematics or in Greek or Latin or logic, or one course in mathematics and one course in logic; Dramatic Art 30m, 31m, 40, 51m, 57, 63, 64a and 64b; required physical education.

Bachelor of Music
(See also pages 64, 249.)

English 1, 2, 21; Modern Civilization 1, 2; foreign language 3, 4, 21 (or 1, 2, 3, 4); two natural sciences (one biological, one physical); two courses in freshman mathematics or in Greek or Latin or logic, or one course in mathematics and one in logic; Music 1, 2, 14, 15, 44, 45; Applied Music BM1, BM2, BM3, BM4; four semesters of Musical Ensemble; required physical education.

Bachelor of Music Education
(See also page 249.)

Same basic requirements as for Bachelor of Music (above).

Bachelor of Science in Bacteriology
(See also page 128.)

English 1, 2, 21; Modern Civilization 1, 2; French or German 3, 4, 21 (or 1, 2, 3, 4) or Russian 1, 2, 3, 4; Chemistry 11, 21; Botany 11; two courses in freshman mathematics; six additional courses, including Chemistry 43, Zoology 11, 41, at least one humanities elective; required physical education.

Bachelor of Science in Business Administration
(See also pages 68-70, 74.)

English 1, 2, 21; Modern Civilization 1, 2; Political Science 41; foreign language 3, 4, and either 21 or one approved humanities elective

(or foreign language 1, 2, 3, 4); three courses in natural science or sophomore mathematics, at least one a biological science and at least one a physical science; two courses in freshman mathematics; six additional courses to include Economics 31, 32, Business Administration 71, 73 (majors in Accounting 71, 72); required physical education.

Bachelor of Science in Business Administration and Law
(See also catalogue of School of Business Administration.)

Same General College requirements as for Bachelor of Science in Business Administration (page 53).

Bachelor of Science in Chemistry
(See also page 151.)

English 1, 2, 21; Modern Civilization 1, 2; German 3, 4, 21 (or 1, 2, 3, 4); Chemistry 11, 21, 43 (or Chemistry 11, 12, 21, 43); two courses in freshman mathematics (31 and 32); Chemistry 51, Physics 24, 25 (or Physics 26, 27), Mathematics 33, 34; required physical education.

Bachelor of Science in Dentistry
(For complete program see page 65.)

Bachelor of Science in Geology
(See also page 210.)

English 1, 2, 21; Modern Civilization 1, 2, one other social science; modern foreign language 3, 4, 21 (or 1, 2, 3, 4); Geology 41, 42, 101, 110, 111; Chemistry 11, 21; Mathematics 15 or 31; required physical education.

Bachelor of Science in Health Education
(See also page 78.)

English 1, 2, 21; Modern Civilization 1, 2; Political Science 41; modern foreign language 3, 4, 21 (or 1, 2, 3, 4); Chemistry 11, 21 and Botany 11 or Physics 20; two courses in freshman mathematics; five additional courses including at least one humanities elective, Anthropology 41 or Education 41, and Psychology 26 or Sociology 52 or 62; required physical education.

Bachelor of Science in Industrial Relations
(For complete program see Industrial Relations page 63.)

Bachelor of Science in Mathematics
(See also Mathematics pages 241-242.)

English 1, 2, 21; Modern Civilization 1, 2, one other social science; French, German or Russian 3, 4, 21 (or 1, 2, 3, 4); Chemistry 11, 12 (or 11, 21) or Physics 24, 25 (or 26, 27); if Physics is not taken in first two years it must be taken in the junior or senior year; two courses in freshman mathematics, preferably Mathematics 31, 32; five additional

courses including Mathematics 33, 34, and at least one humanities elective; required physical education.

Bachelor of Science in Medical Technology
(For complete program see page 66.)

Bachelor of Science in Medicine
(For complete program see page 65.)

Bachelor of Science in Pharmacy
(See also page 101.)

English 1, 2; Modern Civilization 1, 2; foreign language 3, 4; Chemistry 11-21; two courses in freshman mathematics; required physical education.

Note that the second year of this curriculum is taken after admission to the School of Pharmacy. The second year requirements include English 21, Economics 31, Botany 11, Physics 24, Zoology 11, and five pharmacy courses as well as the required physical education.

Bachelor of Science in Physical Therapy
(See also catalogue of the School of Medicine.)

English 1, 2, 21; Modern Civilization 1, 2; foreign language 3, 4, 21 (or 1, 2, 3, 4); Chemistry 11, 12 or 11, 21; Zoology 11, 41; Mathematics 15, 31 or 1; Physics 24, 25; Psychology 26; required physical education; and one to three additional courses. (Psychology 28 recommended.)

Bachelor of Science in Physics
(See also page 275.)

English 1, 2, 21; Modern Civilization 1, 2, one other social science; French, German or Russian 3, 4, 21 (or 1, 2, 3, 4); Chemistry 11, 21 (or 11, 12); Physics 26, 27, 54, 55, 61; Mathematics 31, 32, 33, 34 (or 15, 31, 32, 33); required physical education; one humanities elective. (This elective is not required if four semesters of a new foreign language are taken during freshman and sophomore years.)

Bachelor of Science in Science Teaching
(See also page 79.)

English 1, 2, 21; Modern Civilization 1, 2, one other social science; foreign language 3, 4, 21 (or 1, 2, 3, 4); at least four natural science courses, including Chemistry 11, 21 or 11, 12 and at least one biological science; two courses in freshman mathematics; four to five additional courses, including any specified for the major in General Science, Biology, Chemistry, or Physics; required physical education.

Note that requirements may differ for major in General Science, in Biology, in Chemistry, or in Physics.

Bachelor of Science in Statistics

(See also page 345.)

English 1, 2, 21; Modern Civilization 1, 2, one other social science; modern foreign language 3, 4, 21 (or 1, 2, 3, 4); one biological and one physical science; Mathematics 15, 31, 32, 33; five additional courses, to include at least one humanities elective and at least one science.

Bachelor of Science in Zoology

(See also pages 349-350.)

English 1, 2, 21; Modern Civilization 1, 2, one other social science; French or German 3, 4, 21 (or 1, 2, 3, 4); Chemistry 11, 21, 43; Physics 24, 25 (or 26, 27); Mathematics 15, 31; Zoology 11 and one Zoology elective; required physical education.

GENERAL COLLEGE ELECTIVES

These are courses recommended by the departments for students choosing electives at the freshman-sophomore level. Well qualified students are not limited to this list in choosing electives, but no General College student may register for courses numbered above 99 without approval of the department and the dean. *Underlined* courses may not be taken for credit by students registered in the College of Arts and Sciences.

DIVISION OF THE FINE ARTS

Art	30, 35, 36, 37, 38, 44, 45, 46
Dramatic Art	30, 31, 51, 57
Music	14, 15, 41, 42, 43, 44, 45, 47, 48
Radio	45, 58

DIVISION OF THE HUMANITIES[2]

Art	30, 35, 36, 37, 38, 44, 45, 46
Classics:	Greek 1-2, 3, 4, 21, 22
	Latin 1-2, 3, 4, 21, 22, 51, 52, 53
	Classics 31, 32 (courses in English translation)
Dramatic Art	30, 31, 51, 57
English	22, 23, 25, 26
German	1-2, 3, 4, 21, 22, 31, 32
History	30, 31, 41, 42, 44, 45, 46, 47, 48, 49, 71, 72
Journalism	53
Music	14, 15, 41, 42, 43, 44, 45, 47, 48
Philosophy	20, 21, 22, 31
Radio	45, 58
Religion	28, 30, 32, 45
Romance Languages:	French 1-2, 3, 4, 14, 15, 21, 22, 40, 41, 50, 51, 52
	Italian 1-2, 3, 4, 14, 15, 50, 51
	Portuguese 1-2, 3, 4, 14, 15
	Spanish 1-2, 3, 4, 14, 15, 21, 22, 40, 41, 50, 51, 52
Russian	1-2, 3, 4, 21, 22, 31
Speech	37, 41, 44

2. The School of Business Administration recommends the following electives in the humanities for those who wish a substitute for language 21: Art 30, 35, 36, 37, 38; Classics 31, 32; English 22, 23, 25, 26; Music 41, 42, 43; Philosophy 20, 21, 22; Religion 28, 30, 32, 45.

DIVISION OF THE NATURAL SCIENCES

Astronomy	31, 32
Botany	11, 44, 51, 52, 53
Chemistry	11, 12, 21, 43, 44, 51
Geography	38
Geology	11, 41, 42
Information Science	10
Mathematics	31, 32, 33
Philosophy	20, 21, 22, 31
Physics	20, 24, 25, 26, 27
Psychology[3]	20, 26, 27, 28
Zoology	11, 41

DIVISION OF THE SOCIAL SCIENCES

Anthropology	41, 42
Economics	31, 32
Education	41
Geography	48
History	30, 31, 41, 42, 44, 45, 46, 47, 48, 49, 71, 72
Philosophy	20, 21, 22, 31
Physical Education	41 (men), 42 (women), 77
Political Science	41, 42, 51, 52, 56
Sociology	51, 52

3. Psychology 20 and 28 may not be counted to meet General College requirements in Laboratory Science.

THE COLLEGE OF ARTS AND SCIENCES

JOHN CHARLES MORROW III, Ph.D., *Dean*
FRANK MARION DUFFEY, Ph.D., *Associate Dean*
DANIEL WATKINS PATTERSON, Ph.D., *Associate Dean for Honors*
DAVID GIOVANNI BASILE, Ph.D., JAMES HORTON BLACKMAN, Ph.D., GORDON BAYLOR CLEVELAND, Ph.D., WILLIAM MARION HARDY, M.A., JOHN KENDALL NELSON, Ph.D., PAUL CLYDE RAGLAND, Ph.D., CHARLES DAVID WRIGHT, Ph.D., *Advisers*

The College of Arts and Sciences offers junior-senior programs of study leading to the Bachelor of Arts degree and to more specialized Bachelor of Science, Bachelor of Music, and Bachelor of Fine Arts degrees. Additional special curricula lead to professional study in law, dentistry, medicine, and medical technology; the degree of Bachelor of Science in Industrial Relations; and the degree of Bachelor of Arts with a major in International Studies; and the degree of Bachelor of Arts with a major in American Studies.

ADMISSION AND CHOICE OF MAJOR

Students enter the College by transfer from the General College or by admission to advanced standing in the University. (See "Regulations" and "Admissions," Part II.) In either case, an acceptable pattern of courses must be met. A student transferring from another institution not offering some courses of a particular pattern must include these courses in his junior-senior program. The half-credit rule for freshman courses taken during the junior year and for sophomore courses taken during the senior year does not apply to the removal of such deficiencies by transfer students who register for the needed courses as soon as possible.

In the choice of a major field or special program, the student entering the College will have the assistance of one of the advisers in the Dean's office. If one of the regular degree programs is selected, advisers in the department of the major subject will assist in the selection of courses. Final responsibility for the acceptability of the selection and for full compliance with all published regulations and requirements of the College rests with the student.

Choice of a major subject for one of the regular degree programs places the student in one of the four divisions of the College: the Fine Arts, the Humanities, the Natural Sciences, and the Social Sciences. Departments in the same division as the department of the student's major are "allied"; those in the other divisions are "nondivisional," except that humanities courses are allied to majors in the fine arts and fine arts courses are allied to majors in the humanities. Some departments' courses carry major credit in more than one division, and a limited number of courses offered in some of the professional schools are accepted for degree programs in the College of Arts and Sciences.

THE DIVISION OF THE FINE ARTS

JOSEPH CURTIS SLOANE, Ph.D., *Chairman*
WILTON MASON, Ph.D., *Secretary*

Departments: Art, Dramatic Art, Music, Radio, Television, and Motion Pictures.
(Note: Courses in the humanities are allied to major programs in the fine arts.)

THE DIVISION OF THE HUMANITIES

JACQUES HARDRÉ, Ph.D., *Chairman*
DANIEL WATKINS PATTERSON, Ph.D., *Secretary*

Departments: Classics, English, Germanic Languages, History, Linguistics, Slavic and Oriental Languages, Philosophy, Religion, Romance Languages.
Special Curricula: Comparative Literature, American Studies.
Allied Courses in Schools: Journalism 53, 56, 58, 60, 73, 111.
(Note: Courses in the fine arts are allied to major programs in the humanities.)

THE DIVISION OF THE NATURAL SCIENCES

EUGEN MERZBACHER, Ph.D., *Chairman*
ELIZABETH ANNE MCMAHAN, Ph.D., *Secretary*

Departments: Botany, Chemistry, Geography, Geology, Information Science, Mathematics, Philosophy, Physics, Psychology, Statistics, Zoology.
Special Curricula: Bachelor of Science programs in Dentistry, Medicine, and Medical Technology.
Allied Courses in Schools: Listed in Part IV under certain departments in the Division of Health Affairs.
(Note: Geography 38, 117, 155 are natural science courses.)

THE DIVISION OF THE SOCIAL SCIENCES

FRANK WYSOR KLINGBERG, Ph.D., *Chairman*
SAMUEL M. HOLTON, Ph.D., *Secretary*

Departments: Anthropology, Economics, Geography, History, Philosophy, Physical Education, Political Science, Psychology, Sociology.
Special Curricula: Industrial Relations, International Studies, American Studies.
Allied Courses in Schools: Business Administration 153, 160, and 71 (unless Economics 74 has been taken). Certain other business administration courses may be counted for degree credit only by students majoring in economics (three only), psychology (four from 130, 150, 158, 159, 196, 197), sociology (150), and industrial relations (71, 150, and one other). Education 41, 71 (and others which

may be taken only by some industrial relations majors). Journalism 54, 146, 161, 165, 184, 191. Library Science 105, 107, 122, 123.
(Note: Geography courses except 38, 117, 155 are social science courses.)

REQUIREMENTS FOR DEGREES

Candidates for all degrees must establish eligibility as defined under "Regulations" in Part II.

Bachelor of Arts

1. A minimum of forty full (three-hour) courses or equivalent. Exceptions may be made in individual cases for students who take more than the minimum requirement of courses in the natural sciences. Students enrolled in the Air Force or Naval ROTC must normally take more than the minimum number of courses. (See "Aerospace Studies" and "Naval Science" in Part IV.)

2. The freshman-sophomore pattern of courses required by the General College, plus a junior-senior distribution of 6 to 8 full courses in the major department, 5 to 8 courses in allied departments, and 5 to 8 courses in nondivisional departments. Courses in departments listed in more than one division (History, Philosophy, Psychology) may not be counted as both allied and nondivisional in the same program. Courses crosslisted with the major may not count as electives. Only four upper-college electives may be taken in a single subject.

3. A satisfactory major as prescribed in headnotes to department descriptions of courses in Part IV. A student must earn 18 hours of *C* or higher (not a *C* average) in the major. A student who transfers major credits must earn grade of *C* or higher on at least three-fourths of the major courses taken in University residence. Transfer students must take at least half their major requirements in University residence.

4. From 120 to 123 semester hours (depending on credit value of required science courses), not counting required physical education.

With the approval of the Advisory Board of the appropriate division and the Administrative Board of the College, a program at variance from the regular divisional arrangement may be undertaken.

A student may earn the A.B. degree with a double major by taking at least three courses more than the minimum required for the usual A.B. and by meeting all major requirements in the two disciplines selected.

Bachelor of Arts with a Major in American Studies

GENERAL COLLEGE: Twenty full semester courses (60-63 hours). The required courses are to be the same as for other Bachelor of Arts programs, but must include American Studies 40, Introduction to Ameri-

can Studies, normally to be taken during the student's fourth semester. Majors are urged to take History 71 and 72 their sophomore year. The following courses are recommended though not required as General College electives: Anthropology 41, Art 30, Economics 31, 32, English 23, 25, 26, Geography 48, Music 41, Philosophy 20, Political Science 41, 42, Religion 32, Sociology 51, 52.

THIRD AND FOURTH YEARS: A minimum of twenty full semester courses (60 semester hours) selected in accordance with the following distribution:

CORE REQUIREMENT (seven courses): English 81, 82; History 145, 146; Political Science 162; Religion 135; American Studies 80 (America as a Civilization). American Studies 40 (Introduction to American Studies) must be taken in the junior year if not completed as a part of the General College requirements.

MAJOR REQUIREMENTS: Six to eight of the following courses, with at least two courses to be chosen from each of the three groups, and not more than four in one department. (Note that some of these courses have prerequisites.)

Group A: Art 171, 172, Dramatic Art 31, English 83, 94, 95, 147, 188, Journalism 111, Music 135, 104, Philosophy 159, 142, RTVMP 45, Religion 75, 91, 138, Sociology 54

Group B: Anthropology 121, 122, 135, 167, City and Regional Planning 106, 160, Economics 195, 197, Geography 151, 157, Journalism 165, Philosophy 107, 109, Political Science 41, 42, 51, 75, 132, 138, 156, 180, 181, Psychology 133, 134, RTVMP 190, Religion 170, Sociology 51, 52, 75, 125, 133, 153, 168, 169, 181

Group C: Economics 135, 193, Education 143, Geography 154, History 71, 72, 75, 110, 111, 112, 113, 114, 143, 144, 163, 164, 167, 168, Political Science 63, 145, 155, 165, 166, Religion 93, Sociology 152

ELECTIVES: Five to seven courses chosen from the natural sciences or courses in other divisions with major emphasis on a foreign civilization. Core courses and major courses may not be elected in this category.

Bachelor of Arts with a Major in International Studies

PURPOSE: The College of Arts and Sciences, through interdepartmental cooperation, offers a Bachelor of Arts degree with a major in International Studies. The Curriculum in International Studies is designed to serve two purposes: (1) to provide a broad, general understanding of the basic fields related to international studies, and (2) to provide a preparation for students who wish to enter a career in international relations in government service, business, international agencies, or teaching.

GENERAL COLLEGE: Twenty full semester courses are required, among which the following are recommended: Anthropology 41, Economics 31, 32, Geography 38 or 48, History 30, 31 or 44, 45 or 48, 49 or 71, 72, and Political Science 41.

THIRD AND FOURTH YEARS: A minimum total of twenty full semester courses (60 semester hours) must be selected in accordance with the following distribution:

CORE REQUIREMENT (seven courses): One language course from French 41 or 51, German 31, Spanish 41 or 51, or the equivalent in another modern foreign language; six courses in at least five different subject fields from: Anthropology 120, 121; Economics 91, 111, 161; Geography 152, 153; History 114, 136, 144; Journalism 146; Political Science 86, 145.

CONCENTRATION REQUIREMENTS: (Note: The student elects to concentrate in *either* a geographic area *or* major subject field.)

Geographic—From *one* of the three geographic groups, at least six courses with *C* or higher distributed among three or more subject fields:

	Asia	Latin America	Europe
Anthropology	120, 137, 138, 149	127, 132	
Economics	163, 195	163, 195	136, 195
Geography	181, 182	159, 160	158, 175
History	67, 68, 83, 84, 85, 159, 180, 181, 182, 183, 190, 192, 193, 194, 195	171, 172, 173, 174, 176	133, 134, 135, 136, 140, 141, 159, 181, 182, 183, 188, 189
Political Science	53, 55, 88, 124, 129, 140, 143, 148	56, 87, 88, 126, 127, 147, 167	52, 55, 88, 121, 122, 125, 143

Major subject field—From *one* of the five subject field groups listed below, at least five courses with *C* or higher (not counting any taken in the basic core): Anthropology 55, 113, 114, 120, 121, 122, 123, 126, 127, 129, 132, 136, 137, 149, 167; Economics 70 and 131 or 185 and three from 91, 111, 136, 161, 163, 195; Geography 153, 157, 158, 159, 160, 175, 181, 182; History 68, 69, 84, 85, 114, 135, 136, 140, 141, 143, 144, 159, 171, 172, 173, 174, 181, 182, 183, 188, 189, 190, 192, 193, 194, 195; Political Science 52, 53, 55, 56, 87, 88, 121, 122, 124, 125, 127, 129, 130, 140, 141, 142, 143, 144, 146, 147, 148, 149, 167.

ELECTIVES: Seven or eight electives (to make a total of 20 courses), including at least five upper-college courses from outside the Division of Social Sciences.

HONORS: Students who wish to read for honors in International Studies should consult the curriculum adviser in the College of Arts and Sciences early in their junior year. Honors candidates will sub-

stitute International Studies 90 and 91 (three hours each) for two courses in the concentration.

Bachelor of Science

Four-year programs leading to the degree of Bachelor of Science provide for specialization in a particular science, necessary instruction in related fields of science, and a minimal requirement of work in English, foreign language, and other nonscientific fields.

This degree is awarded in six fields: Bacteriology, Chemistry, Geology, Mathematics, Physics, Statistics, and Zoology. Junior-senior requirements for each degree are stated in the headnote to the course descriptions of the respective department in Part IV.

Bachelor of Science in Industrial Relations

GENERAL COLLEGE: English 1, 2, 21; Modern Civilization 1, 2; Political Science 41; modern foreign language 3, 4, 21 (or 1, 2, 3, 4); Psychology 26, one other biological and one physical science; two courses in freshman mathematics; six additional courses, including Economics 31, 32 (with grade of *C* or higher), Sociology 51; required physical education.

CORE REQUIREMENTS: Business Administration 71 (or Economics 74), 150 and one additional economics or business administration course; Economics 191, 192 (or 193); Psychology 133 or Sociology 133; History 168 (or Economics 135); one statistics course in economics, psychology, or sociology.

MAJOR REQUIREMENT: Five courses selected with advice and approval of the College adviser, from one of the following fields: education, history, political science, psychology, sociology. Courses in the major must be passed with grade of *C* or higher.

ELECTIVES: Seven courses in the natural sciences and the humanities. (History courses may not be elected if the major is in history.)

Bachelor of Fine Arts

Four-year programs leading to the degree of Bachelor of Fine Arts provide, for qualified students, pre-professional training in the performing and creative aspects of the arts. Approximately one-half the program will be in the field of the major, the other half in the liberal arts and sciences.

This degree is awarded in Art and in Dramatic Art. Junior-senior requirements for the degree are stated in the headnote to the course descriptions of these departments in Part IV.

Bachelor of Music

The four-year program leading to the degree of Bachelor of Music emphasizes training and achievement in the performance or composition of music. Approximately one-half the program will be in music, the other half in the liberal arts and sciences.

Junior-senior requirements for the degree are stated in the headnote to the course descriptions of the Department of Music in Part IV.

DEGREES WITH HONORS

Programs providing an opportunity for honors study for qualified students are offered in all four divisions of the College. The honors programs are supervised by the individual departments. Though they are not completely uniform in the various disciplines, all have these general procedures and requirements:

1. Application for honors work: Students may be admitted to departmental honors programs on application to the departmental honors adviser in their major. Application should be made at the end of the sophomore year or as early as possible during the junior year, though exceptional cases may be approved at the beginning of the senior year. Detailed information concerning application should be obtained from the department honors adviser.

2. Requirements for eligibility: In general, an over-all grade average of *B* is required for admission to honors work, though exceptions may be made by the departments in unusual circumstances, with the approval of the Faculty Council on Honors.

3. Nature and purpose of honors study: These programs are provided for students whose work in the University has demonstrated a very high level of scholastic ability and achievement and who desire to pursue an intensive, individualized program of study in their major discipline. The honors student is usually exempt from one or more of the regular major courses, may participate in seminars, and will be expected to undertake special reading programs and independent research. This independent research and reading will be directed toward the preparation of an honors essay or some other individual project. In every instance, study for honors will require academic excellence. A written comprehensive examination or an oral examination, or both, are required during the second semester of the senior year. When the student has fulfilled all of those requirements, the department will recommend to the Dean of the College of Arts and Sciences that the degree be designated "with honors," or "with highest honors." A minimum over-all average of *B* is ordinarily required for the honors degree, and the degree with highest honors is conferred in recognition of extraordinary achievement in the work of the honors program and predominantly excellent course grades in the major.

4. Honors in Writing: The departments of Dramatic Art, English, and Radio, Television, and Motion Pictures have programs leading to a degree with honors in writing.

5. Opportunities for independent study outside the framework of departmental honors programs are available. Qualified students should consult the Associate Dean for Honors.

SPECIAL PRE-PROFESSIONAL PROGRAMS

Students preparing for the study of law, medicine, or dentistry should consider carefully the admission policies stated in the current special catalogue of the chosen professional school.

Three types of such preparation are available in the General College and the College of Arts and Sciences: (1) regular four-year program leading to a bachelor's degree; (2) three-year non-degree program planned to meet the admission requirements of a particular school; (3) special three-year program with bachelor's degree awarded after first year of professional study.

Only students who expect to complete at least their third year of academic work (10 courses or equivalent) and their first year of professional study at the University are eligible for the special three-year programs outlined below. Each student selecting one of these programs must assume individual responsibility for securing admission to the School of Law, the School of Medicine, or the School of Dentistry. Satisfactory completion of the stated quantity of academic work does not assure admission to the professional school.

Bachelor of Arts and Laws

GENERAL COLLEGE: English 1, 2, 21; Modern Civilization 1, 2; Political Science 41; foreign language 3, 4, 21 (or 1, 2, 3, 4); Psychology 26 and two other courses in natural science, at least one of them in a physical science or sophomore mathematics; two courses in freshman mathematics, or in Greek or Latin or logic, or one course in mathematics and one in logic; six additional courses, including Economics 31, 32, English 22 or 23 or 25 or 26 (or a music or art or religion elective), one course in political science, and one humanities elective; required physical education.

THIRD YEAR: History 71, 72 (or 44, 45); Speech 44; English 30 or some other English course; seven additional courses.

Bachelor of Science in Medicine or in Dentistry

GENERAL COLLEGE: English 1, 2, 21; Modern Civilization 1, 2; foreign language 3, 4, 21 (or 1, 2, 3, 4); Chemistry 11-21 (or 11-12, 21), Botany 11; two courses in freshman mathematics; seven additional courses, including Chemistry 43, Physics 24-25 (or Zoology 11 and 41

or 103), English 22 or 23 or 25 or 26 (or a music or art or religion elective), foreign language 22 (or humanities elective); required physical education.

THIRD YEAR: Chemistry 61, 64 (or 61, 62), Psychology 26, Zoology 11 and 41 or 103 (or Physics 24-25); four electives.

Bachelor of Science in Medical Technology

The School of Medicine offers jointly with the College of Arts and Sciences two programs leading to the Bachelor of Science in Medical Technology.

The first of these programs consists of a four-year collegiate curriculum followed by a year of practical experience and training in a hospital to qualify the student for an examination offered by the Registry of Medical Technologists of the American Society of Clinical Pathologists. Although the fourth year must be taken in the College of Arts and Sciences, the additional year of medical training does not necessarily have to be taken at the Memorial Hospital of The University of North Carolina at Chapel Hill, and the successful completion of the collegiate portion of the program does not guarantee admission to training in the hospital.

At least eighteen semester hours of grade *C* or higher are required from the following: Chemistry courses numbered above 31, zoology courses numbered above 42, bacteriology and pathology courses.

In the second of these programs the student takes a prescribed curriculum for two years in the General College (or its equivalent elsewhere) and one year in the College of Arts and Sciences of the University. The fourth year consists of a twelve-month course in medical technology in the School of Medicine; both the third and fourth years must be taken in the University. The completion of the first three years of this program does not assure admission to the twelve-month course in medical technology in the School of Medicine. Only the most promising applicants can be chosen to fill the limited number of vacancies in the medical technology course. The schedules of academic work for both programs follow:

GENERAL COLLEGE: English 1, 2, 21; Modern Civilization 1, 2, one other social science; foreign language 3, 4, 21 (or 1, 2, 3, 4); Chemistry 11-21, 43; two courses in freshman mathematics; Zoology 11, 41 and two humanities electives; required physical education.

ADDITIONAL COURSES FOR THREE-YEAR PROGRAM: Chemistry 61, 64; Bacteriology 51 or 55 or 132; two courses from Bacteriology 161, Zoology 103, 104, 105, 110, 111, Biochemistry 101ab, Chemistry 44, Public Health 134, Botany 11; four additional courses, including three non-science electives.

FOUR-YEAR ACADEMIC PROGRAM: General College requirements and additional courses listed above; Physics 24-25; nonscience courses representing 6 semester hours; unrestricted elective representing 15 semester hours. Students in both three-year and four-year programs must take a minimum of 16 semester hours in the biological sciences.

THE SCHOOL OF BUSINESS ADMINISTRATION

MAURICE WENTWORTH LEE, Ph.D., *Dean*
CLAUDE SWANSON GEORGE, JR., Ph.D., *Associate Dean*
ROY WALTER HOLSTEN, A.B., *Assistant to the Dean*
RALPH WILLIAM PFOUTS, Ph.D., *Chairman of the Department of Economics*
DAVID MCFARLAND, Ph.D., *Chairman of Graduate Studies in Economics*
AVERY BERLOW COHAN, Ph.D., *Chairman of Graduate Studies in Business Administration*[1]
ROLLIE TILLMAN, D.B.A., *Director of the M.B.A. Program*

General Statement

Although courses of instruction in economics and in certain business subjects had been offered for many years in the University at Chapel Hill, not until 1919 was a comprehensive, well-organized business curriculum established. In that year the General Assembly, in conformity with the recommendation of the President of the Board of Trustees, enacted the legislation which resulted in the organization of the School of Commerce. The name of the School was changed in 1950 to the School of Business Administration. The School occupies a place in the University organization coordinate with other professional schools and the College of Arts and Sciences.

In 1923 the School was admitted to membership in the American Association of Collegiate Schools of Business, an organization dedicated to the promotion of high standards in professional education for business. Membership is based on the number and caliber of the faculty; the thoroughness of the academic program offered; the content and breadth of the curriculum, both in general education and in business; the financial support of the School; and the physical facilities provided for carrying on the work. The undergraduate course of study, leading to the degree of Bachelor of Science in Business Administration, covers a period of four years, except in accounting which is a four and one-half year program, and is designed to give a foundation of general education in the natural sciences, the humanities, and the social sciences, as well as to supply a professional background to those who intend to engage in business administration.

For those desiring work at a more advanced level in business administration, the Graduate School of Business Administration offers courses leading to the degrees of Master of Business Administration, Master of Science, and Doctor of Philosophy.

Purpose and Policy

The continuing economic development of the South has produced an imperative need for trained businessmen. The School of Business Administration, in a large sense, is the expression of the University's

1. Except the M.B.A. Program.

desire to serve this need. Substantial support has been accorded the School by both the University and the state as a whole. The School has been provided with a well qualified instructional staff. The School is housed in a quadrangle of three modern buildings offering outstanding classroom and laboratory facilities.

The teaching policy of the School assumes that effective education for business responsibility should consist not only of development of understanding of the principles and methodology which govern the organization and administration of individual business enterprises, but also of an understanding of the problems and the larger relationships of the economy as a whole. In his attempt to master the more specialized aspects of business, the student is not permitted to lose sight of social and other cultural values. Instead, the curriculum in business administration is founded upon the realization that an effective career of business leadership must be based upon a broad cultural foundation. The exacting demands which face the modern business executive require that he possess more than a high degree of professional competence in technical and specialized aspects of business administration. He must also have a broad grasp of general business fundamentals and must have a full awareness of the economic, social and human forces which form the background against which his business career will be pursued. In short, the effective business executive must, first of all, be a responsible, informed, and perceptive citizen.

For these reasons, the program in business administration has been carefully formulated to maintain a balance between the equally important needs of general education and of professional education for business responsibility. Whenever possible, therefore, the plan is followed of presenting the subject matter of the various courses from the point of view of the administrator, always bearing in mind that his field of interest includes the broad external relationships as well as the internal administration of his business. Adherence to this point of view enables the student to consider the problems and practices of business in a broad perspective.

The program leading to the degree of Bachelor of Science in Business Administration has been carefully coordinated with the required two-year program of the General College, described on page 53. The undergraduate program in business administration places further emphasis upon intellectual breadth by requiring that each student take a core of seven courses in fundamental business subjects, supplemented by appropriate elective courses in areas outside business administration.

The core courses which are required of all candidates for the Bachelor of Science degree in Business Administration are:

Economics 70	Elementary Statistics
Economics 132	Intermediate Theory: Money, Income and Employment
Business Administration 91	Business Law
Business Administration 130	Principles of Industrial Management
Business Administration 150	Personnel Relations
Business Administration 160	Principles of Marketing
Business Administration 180	Business Finance

These core courses, plus the required program in the General College during the freshman and sophomore years, described on page 53, form the background for additional courses in business administration. Specific details are presented in the catalogue of the School of Business Administration.

Department of Economics

The Department of Economics is administratively and educationally a part of the School of Business Administration and provides instruction as an integral part of the program of the School.

In addition, the Department offers undergraduate and graduate programs in economics in the College of Arts and Sciences and in the Graduate School, leading to the degrees of Bachelor of Arts, Master of Arts, and Doctor of Philosophy, for those students desiring to specialize in economics.

Reserve Officers Training Corps Program

Regularly organized units of the Air Force ROTC and Naval ROTC are maintained at the University. With careful planning, it is possible for a student to complete successfully the requirements of either of these programs coincident with an undergraduate curriculum in business administration in four academic years, except for students preparing for an accounting career.

Such ROTC students will be able to make arrangements on an individual basis with their unit for deferred graduation if graduation requirements cannot be met within four years. More complete information is available in the catalogue of the School of Business Administration.

Special Students

Frequently, persons already engaged in business careers feel the need of additional special training but are unable to spend a relatively long period at the University or cannot provide proper credits for admission as regular students. The School of Business Administration will admit as special students certain applicants who are twenty-one years of age or over. Such an applicant should submit a statement from his

employer or former employers concerning the term, nature, and quality of his work. A self-employed person should submit a resume of his business experience. A personal interview with the Dean or Associate Dean is also recommended. Veterans who apply for admission as special students and who wish to qualify for assistance under one of the governmental educational programs must receive the specific approval of the Veterans' Administration.

All special students are admitted on probation and are not candidates for degrees.

Graduate Study

Professional education in business administration at the graduate level is offered for college graduates with undergraduate majors in business administration as well as for students who have been awarded undergraduate degrees in other fields. A student's initiative and analytical and creative powers are matured and tested to a degree impossible of attainment in the undergraduate years. Certain courses have been developed exclusively for graduate students; some, designed primarily for the encouragement and guidance of research activity, are conducted informally and on a basis of close personal contact between professor and student.

The Graduate School of Business Administration offers the graduate degrees of Master of Business Administration, Master of Science, and Doctor of Philosophy. Graduates of other institutions desiring to enter as candidates for advanced degrees should submit their records, together with application for admission, to the Dean of the Graduate School of Business Administration. For further details, see the catalogue of the Graduate School of Business Administration.

The Department of Economics offers through the Graduate School the programs leading to the degrees of Master of Arts and Doctor of Philosophy with a major in economics.

The Bureau of Business Services and Research

REX SHELTON WINSLOW, Ph.D., *Director*

The Bureau of Business Services and Research is an agency of the School which cooperates with The Executive Program, the University Extension Division, private business firms, foundations, and trade associations in organizing and extending the services and facilities of the School of Business Administration to the business community of North Carolina.

The Bureau designs and administers adult education programs for business executives both on and off the campus. It acts as a consultant to business firms and associations seeking to establish research programs of their own. It directs the work of Management Development, Inc., a private corporation established by the alumni of The Executive

Program to continue their own development through holding Management Institutes in their home communities.

The Bureau participates and assists in forwarding the research objectives of the School and University and publishes from time to time the results of research investigations.

The Executive Program

HAROLD Q. LANGENDERFER, D.B.A., C.P.A., *Acting Director*

The Executive Program, a program of advanced study in business administration for men in management, was established in 1953. This program is designed for persons already carrying major executive responsibility. All areas are presented from the top management point of view to increase general effectiveness of executive performance. The over-all objective is the development of broad-gauge senior management personnel.

The Program is not a series of self-contained units; instead, attention is devoted to cases and problems which involve several areas. The emphasis is upon (a) the development of an understanding of the problems of *all* divisions of the business, and (b) an approach to the solution of these problems from the top management point of view.

The Program consists of a combination of eight alternate weekends and two one-week periods of full-time residence. Each applicant for admission should be nominated by his employer and sponsored by him. Admission is highly selective; successful business experience weighs heavily in the selection.

The Southern Economic Journal

ROBERT EMIL GALLMAN, Ph.D., *Managing Editor*
DELL BUSH JOHANNESEN, Ph.D., *Assistant Managing Editor*

The Southern Economic Journal, established in 1933, has been published jointly by the Southern Economic Association and The University of North Carolina at Chapel Hill since 1936. It is a quarterly publication containing articles, communications, and book reviews ranging over all fields of economics. It provides a medium for publication of the creative work of southern and other economists. It is now recognized as one of the distinguished American journals in its field and has both a national and international circulation.

Library Facilities

The extensive resources of the million and a half volume University Library include substantial collections in business administration and economics, for both research and instructional purposes. The Library's Business Administration and Social Sciences Division is organized to serve the library needs of students and faculty of the School.

This Division contains over 500 current scholarly, trade and other journals in business and economics, as well as a selected collection of important books, plus the essential business services. The Library is a depository for the publications of the federal government and the United Nations. These collections, along with the unique collection of state publications, constitute basic research materials of specific value in business administration and economics. Individual carrels for graduate student use are available in the Library. Through a cooperative arrangement, the collections of the Duke University Library also are available to faculty and graduate students of the School.

Lectures, Observation Trips, and Clinics

Valuable supplementation to the regular curriculum is furnished by lectures by prominent businessmen and educators who are invited to the University for this purpose.

In addition to formal lectures, the School periodically arranges for business leaders to come to the University for informal discussion of current business problems in their respective fields to provide the student with a clearer understanding of actual business practice.

From time to time classes in business administration visit neighboring factories and other types of business firms to gain firsthand insight into business operations.

The Reynolds Student Investment Trust

In October 1952, Mr. Charles H. Babcock generously gave the University a sum of money to establish an investment trust to be managed by a Student Governing Board composed of selected students qualified to make sound investment decisions. In creating the trust, Mr. Babcock said, "It is hoped that the investment trust to be set up will serve as a useful teaching medium in economics and finance courses. It should bring additional realism and responsibility into the classroom, thereby being of practical benefit both to the student and the professor. The investment management problems presented should be a stimulus to investment thinking even though the student does not plan a career in banking or finance." One-half the income arising from the operation of the investment trust is to be donated to the Chapel Hill Community Chest and the other half added to the corpus of the fund.

Beta Gamma Sigma

Beta Gamma Sigma, recognized by the American Association of Collegiate Schools of Business as the national scholarship society in Commerce and Business, maintains a chapter, Alpha of North Carolina, at the University. Those students who rank scholastically in the highest 10 per cent of the senior class and the highest 3 per cent of the junior

class may be considered for membership in this organization, although the number selected is generally less than indicated by the foregoing figures.

Admission

For requirements for admission to the School of Business Administration, see "Admission to Upper College or School," in Part II. For the curriculum offered in the first two years while the student is formally enrolled in the General College, see page 53.

Courses and Curriculum Leading to the Degree of Bachelor of Science in Business Administration

A description of courses offered by the School of Business Administration is given in Part IV of this catalogue. A list of the core courses required of all degree candidates in Business Administration is shown on page 70. The curriculum which leads to the degree of Bachelor of Science in Business Administration is described in detail in a separate catalogue of the School of Business Administration, which may be obtained by addressing a request to the Dean.

THE SCHOOL OF EDUCATION

NORTON L. BEACH, Ed.D., *Dean*
ZANE E. EARGLE, Ph.D., *Associate Dean*

General Statement

Undergraduate students who wish to prepare for teaching in the elementary school or in the secondary school will be admitted to the School of Education in accordance with the procedure stipulated in "Admissions to Upper College or School," in Part II.

Each student will select courses in his major field of concentration to meet the requirements for graduation from the University and will take courses in education to meet teacher certification requirements.

Curricula which meet the requirements of the State Board of Education for certificates to teach in the public schools of the various states are administered by the School of Education in cooperation with the academic departments of the University. Majors are offered and certificate requirements are met in art, distributive education, elementary education, English, foreign language (French, German, Latin, Spanish), health education and physical education, music, science (earth science, biology, chemistry, physics), social studies (economics, history, political science, geography, sociology), special education, and speech.

Accreditation

The School of Education is a member of the American Association of Colleges for Teacher Education and is accredited by the National Council for Accreditation of Teacher Education.

Degrees Offered

The following degrees are awarded to students completing undergraduate programs of study in the School of Education: Bachelor of Arts in Education (Secondary); Bachelor of Arts in Education (Elementary); Bachelor of Music Education; Bachelor of Science in Science Teaching (Secondary); Bachelor of Science in Health Education. Freshman-sophomore requirements for these programs are stated under "The General College," in Part III.

GRADUATION REQUIREMENTS

In addition to the general University requirements for graduation stated in "Regulations," Part II of this catalogue, a student who secures a degree in the School of Education must meet each of the following:

1. A minimum of 124 semester hours credit.

2. A minimum of forty courses, twenty of which should be of junior-senior standing.

3. The freshman-sophomore pattern of courses required by the General College and a distribution of courses in the junior and senior years that meets the requirements for the student's particular major pattern as described below.

4. A satisfactory teaching major in elementary education, in junior high school education, or in teaching one of the subject areas at the secondary school level.

5. A *C* average or better in his major courses taken in this University (those required for North Carolina certification), and the approval of his adviser.

PROFESSIONAL PROGRAM

The professional program designed to meet the certification requirements has been organized around three areas of study—*The School, The Pupil,* and *Teaching (The Practicum).* The content of the courses, which of necessity cuts across these areas, has been organized to eliminate unnecessary duplication. The materials used and the activities engaged in through these courses offer a variety of individual and collective experiences. Schools are visited, classrooms are used for observation of student growth, teachers are interviewed for professional development, and community activities are observed.

The following professional courses are listed in the catalogue for credit toward graduation:

Elementary Students:

Ed. 41. EDUCATION IN AMERICAN SOCIETY (3). *(The School).*

Ed. 52. MATERIALS AND METHODS IN THE LANGUAGE ARTS (3).

Ed. 71. EDUCATIONAL PSYCHOLOGY (3). *(The Pupil).*

Ed. 72a. ADOLESCENT GROWTH AND DEVELOPMENT (3). *(The Pupil).*

Ed. 61. THEORY AND PRACTICE OF TEACHING IN THE ELEMENTARY SCHOOL (6). *(The School, Methods and Meterials, Practicum).*

Ed. 62. STUDENT TEACHING IN ELEMENTARY SCHOOL (6).

Secondary Students:

Ed. 41. EDUCATION IN AMERICAN SOCIETY (3) *(The School).*

Ed. 71. EDUCATIONAL PSYCHOLOGY (3). *(The Pupil).*

Ed. 72b. ADOLESCENT GROWTH AND DEVELOPMENT (3). *(The Pupil).*

——APPROPRIATE COURSES IN THEORY AND PRACTICE OF TEACHING *(The School, Methods and Materials, Practicum).* See description of courses for specific subject fields.

Program for Students Planning to Teach in Junior High School

The School of Education offers a special program for the training of junior high school teachers. Even though North Carolina issues no junior high school certificate *per se* a very large percentage of begin-

ning English and social studies teachers will be teaching at this level, and it is felt that the majority of the University's prospective teachers in these areas should prepare themselves specifically for it. Students who are interested in the junior high program should consult advisers in the School of Education.

Program in Secondary Education

In addition to the professional courses from the field of education outlined above, all students in the program of secondary education will meet the requirements in the fields of their specialization by following the programs outlined below. The total undergraduate program of the secondary education student, including the General College course pattern has been designed to meet the North Carolina requirements for the Class "A" teacher's certificate in the area of the major. Similar certification requirements exist in other states, but students planning to teach outside of North Carolina should consult with their advisers in the School of Education with regard to specific requirements.

ART

Students who choose art as their major teaching field are required to have a minimum of thirty-nine semester hours in art. The specific courses are as follows: Art 30, 44, 46, 49, 61, 63, 82, 84, 153, and one other Art History course, plus any three art courses, one of which shall be at the one hundred level.

DISTRIBUTIVE EDUCATION

Students who choose distributive education as their teaching field will take the following courses or alternates which are approved by their adviser:

Economics 31, 32; Business Administration 91, 160, 165; Geography 152; three courses from the following group: Business Administration 71, 72, 130, 150, 161, 166, 180, Economics 81; one course from the following: Art 61, English 32, Psychology 26, Sociology 51, Speech 40.

ENGLISH

Students who choose English as their teaching field will take the following:

English 1-2, 21, 30, 36, 58, and 81 or 82; Speech 40 or 41; one of the following: English 52, 54, 60, 64, 66; one of the following: English 72, 73, 78; two electives in literature (one of these may be taken during the freshman or sophomore year).

FRENCH

Students who choose French as their major teaching field should take, in addition to French 3-4 and 21, the following:

French 50, 51, 52, 53, 71, 72, 145.

GERMAN

Students who choose German as a major teaching field should take, in addition to German 3, 4, and 21, the following:

German 22, 31, 32, 90, 145.

Three courses in German literature. These three courses are to be selected with the help of the student's adviser and must form a unit in a particular area. This can be done by selecting the following: German 109, 111, 115 or German 121, 122, 131 or three courses from German 141, 152, 153, 171.

HEALTH AND PHYSICAL EDUCATION

Students who choose health and physical education as their teaching field will take the following:

Physical Education 75, 76, 77, 78, 79, 86, 87, 88, 89.

In addition, men will take Physical Education 41, 65, 66, 67; women will take Physical Education 42, 55, 56, 57.

HEALTH EDUCATION

Students who choose health education as their teaching field will take the following:

Anthropology 41; Bacteriology 51 or 151; Zoology 11; Psychology 26; Sociology 51 and 52 or 62; Education 176 or Public Health 135; Public Health 18, 19, 110a, 110b.

LATIN

Students who choose Latin as their major teaching field will take the following:

Latin 3-4, 21, 71; six of the following: Latin 51, 52, 53, 54, 55, 56, 57, 58.

MATHEMATICS

Students who choose mathematics as their teaching field will take the following:

Mathematics 1 and 2 or Mathematics 15; Mathematics 31, 32, 33, 116, 117, 135; two of the following: Mathematics 111, 119, 120, 131, 141, 171, 172, 181, 182.

MUSIC

Students who choose music as their teaching field will take the following courses or their equivalents. Several of these courses are ordinarily taken during the student's first two years of college work.

Music 1, 2, 14, 15, 44, 45, 47, 48, 61, 62, 64, 68; Music 101 or 162 or 165; Music 1C, 2C, 3C, 4C, 5C, 6C, 7C; Music 1D, 2D; Music ensemble: seven (7) semesters.

NATURAL SCIENCE

Students who choose science as their teaching field will, upon completion of the prescribed program, be awarded the B.S. in Science Teaching degree. All science courses taken while the student is in the General College may count toward the degree requirements. Students who choose this program are encouraged to complete at least four science courses while in the General College.

Students who choose the B.S. in Science Teaching degree program must complete foundation courses and must select one science teaching field as a major:

Foundation Courses: Botany 11; Chemistry 11-21; Geology 11; Mathematics 1 and 2 or 15 and 31; Physics 24-25; and Zoology 11.

In addition to the above foundation courses or their equivalents, the student will select one of the following major programs:

Biology: Bacteriology 51, Chemistry 61, 2 electives in Botany, and 2 electives in Zoology.

Chemistry: Chemistry 43, 51, 61, 2 electives in Chemistry; Astronomy 31 or Physics elective.

Physics: Astronomy 31, Mathematics 31, 32, 33; Physics 54, 55, 61, 101, and one elective in Physics.

Earth Science: Geology 42, 101, 110, 111, and one Geology elective; Astronomy 31; Geography 38.

SOCIAL STUDIES

Students who choose social studies as their teaching field must have the following courses or their equivalents:

Modern Civilization 1-2

History 71, 72

Four additional history courses numbered above 50 with two from the area of European or world history and two from the area of American history.

The following courses or alternates approved by their adviser in the School of Education:

Political Science 41 and 86

Sociology 51 and Sociology 70 or 75 or 122

Economics 31 and 32

Geography 152 or 153 and one of the following: 154, 157, 158, 159, 162, 175, 181, 182.

SPANISH

Students who choose Spanish as their teaching field will take the following:

Spanish 3-4, 21, 50, 51, 52, 71, 72, 145, and one Spanish elective numbered above 50.

SPEECH

Students who choose speech as their teaching field will take the following courses or alternates which have been approved by their adviser:

Speech 40, 41, 44, 183
Speech 45 or 54 or 87
Speech 50 or 140 or 170
Dramatic Art 31 or 51 or 63
RTVMP 60

Any combination of additional courses in speech, dramatic art and RTVMP to make a minimum total of 30 semester hours.

Program in Elementary Education

The program of study leading to a major in elementary education and to certification as an elementary school teacher in North Carolina and other states may be arranged by the student in consultation with his adviser. Completion of General College requirements (freshman and sophomore years) is a prerequisite to enrollment in the School of Education and to admission to courses in education designed to develop in the student the competencies needed for effective guidance and teaching of young children.

Education majors may enter the University as freshmen. Their General College program should include, where possible, two courses in American history, two courses in geography (principles and regional), an introductory course in political science, and a course in music appreciation or a course in art appreciation. These courses are usually worked into the program of the student in meeting General College requirements.

Students may enter the University as juniors and go directly into the School of Education provided General College requirements have been met. Women who are planning to transfer to the University after two years at some other institution should plan their freshman and sophomore programs to meet General College requirements and to include the courses in history, geography, political science, art, and music mentioned above. Women admitted to the University with marked deficiencies in these courses and in General College requirements will find it necessary to take an extra term to meet graduation requirements and to complete courses needed for teaching certification in a particular state. The summer session before the junior and senior years as well as the summer following the senior year may be used for this purpose. Students who plan their program properly may transfer to the University after two years in some other recognized institution

and complete the work in the regular four semesters of two academic years.

Specific courses for the junior and senior years are selected in consultation with an adviser in elementary education. Not all students will have the same courses during the same semester. Variations will occur because of differences in freshman and sophomore programs and because of individual needs of students. All students, however, must meet graduation requirements of the University and must include all courses required by the state of North Carolina for certification as a Class A teacher in the primary or grammar grades.

Elementary certification requires the professional courses listed on page 76, in addition to the following subject-matter credits. Many of these should be completed during the first and second years of the college program.

SUBJECT	SEMESTER HOURS
1. ENGLISH	12
Courses required for degree plus Children's Literature.	
2. AMERICAN HISTORY AND GOVERNMENT	9
Required:	
a. American History	6 s.h.
b. Government	3 s.h.
3. GEOGRAPHY	6
Principles and Regional recommended.	
4. FINE AND INDUSTRIAL ARTS	12
Required:	
a. Art (including laboratory course)	6 s.h.
b. Music (including fundamentals for teachers)	6 s.h.
5. HEALTH AND PHYSICAL EDUCATION	6
Required:	
a. Principles, Practices, and Procedures in Physical Education for Elementary Schools	3 s.h.
b. Principles, Practices, and Procedures in Health for Elementary Schools	3 s.h.
6. MATHEMATICS	6
Required:	
a. Mathematics 17	3 s.h.
b. Mathematics 18	3 s.h.

PROFESSIONAL PROGRAM FOR LIBERAL ARTS GRADUATES

Fifth-Year Program in Teacher Education

Graduates of liberal arts programs may be admitted to the School of Education for a program including further study in selected academic

fields and leading to professional certification for elementary or secondary school teaching.

In September 1959, the School of Education inaugurated a special program for liberal arts graduates designed so that the student may pursue graduate studies in a major teaching field while working in a professional program for secondary school teaching. The program began on an experimental basis financed by a grant from the Fund for the Advancement of Education. Entering classes begin in February or June and run continuously for fifteen months. Those who begin in September or February may complete the program in two academic years. During the fifteen-month period students not only complete course requirements but also engage in a supervised field experience as *associate teachers* in selected public schools. During the field experience *associate teachers* not only have opportunities for directed observation of pupils and experienced teachers, but also actively engage in teaching and directing other school activities. The *associate teacher* works under the direction of a supervising teacher and a University supervisor. Selected *associate teachers* will receive payment from the participating school systems.

Students preparing for secondary school teaching will complete the following program of studies or the equivalent:

1. Education G51: (Foundations of Education: 6 semester hours).
2. Appropriate course in *Theory and Practice of Teaching* selected subject field (3 semester hours).
3. Supervised Field Experience (9 semester hours).
4. A graduate major of 18 semester hours in selected teaching field.
5. A graduate minor of 12 semester hours in education.

Upon satisfactory completion of the program, students will be awarded the Master of Arts in Teaching degree and will be eligible for a teacher's certificate in almost every state in the nation. Liberal arts graduates who desire more information about this program should write to John B. Chase, Jr., Director of the Fifth-Year Program, 201 Peabody Hall, The University of North Carolina at Chapel Hill.

Graduate Program

The School of Education offers in the Graduate School the Master of Arts and the Doctor of Philosophy degrees. It also offers in the Graduate School the professional graduate degrees, the Master of Arts in Teaching, the Master of Arts in College Teaching, the Master of Education and the Doctor of Education, and the two-year graduate program in educational administration. Requirements and programs for the above degrees are described in the Graduate School Catalogue and the School of Education Catalogue.

THE SCHOOL OF JOURNALISM

WAYNE ALLEN DANIELSON, Ph.D., *Dean*

General Statement

The School of Journalism, founded as a department in 1924 and changed to School status in 1950, offers a two-year course leading to the A.B. in Journalism.

The School is accredited by the American Council on Education for Journalism, which approves its News-Editorial sequence, the only curriculum offered.

Students who have completed two years of liberal arts courses are admitted provided they have met the requirements of the General College. Because of the nature of class and laboratory assignments, students should be able to type with reasonable accuracy and speed.

The School also offers a major in journalism, leading to the A.M. degree, in the Graduate School and is the administrative center for an interdepartmental program leading to the Ph.D. degree with a major in Mass Communication Research.

The undergraduate academic program of the School of Journalism, including the two years of liberal arts required for admission, is designed to provide students with (1) a basic liberal education, (2) an understanding of the responsibilities of a free press in a democratic society, and (3) a fundamental knowledge of journalistic techniques.

Students are encouraged to acquire a background in the humanities, the social sciences, and the natural sciences while preparing for journalism careers. The program of the School prepares students for editorial and advertising positions on newspapers and magazines, for radio and television news writing posts, and for a variety of other positions demanding skill and judgment in preparing communications addressed to the public.

Candidates for the A.B. in Journalism are required to take eight courses in journalism. In addition, they must take: (1) Political Science 41; (2) introductory courses in two of the following fields: economics, psychology, or sociology; (3) two advanced courses in American or North Carolina history; and (4) two advanced courses in one of the following fields: economics, political science, sociology, or psychology. Political Science 41 and the introductory courses in the other social sciences should be taken in the General College or in the case of transfer students in the sophomore year on other campuses. If not taken in the sophomore year, these courses must be taken in the junior year.

Students planning to enter the School of Journalism are advised to meet the General College social science requirement by taking Modern

Civilization 1 and 2, and Political Science 41. Psychology 26 meets the requirement for a biological laboratory science and students planning to major in journalism are urged to enroll in this course. Journalism staff members are available to advise pre-journalism students concerning elective courses in the General College. Students planning to transfer from other institutions are urged to note General College requirements and meet them in their institutions.

The School of Journalism Foundation of North Carolina, Inc., was established in 1949 to promote the advancement of professional education for journalism at the School of Journalism. Income from the Journalism Foundation endowment is expended for that purpose at the discretion of the Dean. Major expenditures have been for undergraduate scholarships, graduate assistantships, and subscriptions to newspapers and magazines.

Journalism and pre-journalism students interested in extracurricular activities in line with their academic program are encouraged by the School of Journalism to work on *The Daily Tar Heel,* student newspaper, and on *The UNC Journalist,* the School's laboratory newspaper.

For further information see course listings on pages 230-233, and write to the Dean of the School of Journalism for the separate journalism bulletin.

THE SCHOOL OF LAW

JAMES DICKSON PHILLIPS, JR., B.S., J.D., *Dean*

General Statement

The School of Law, now in its one hundred and twenty-third year and with a regular faculty of twenty-four, offers a three-year course leading toward the LL.B. degree. It is on the approved lists of the North Carolina Board of Law Examiners, the State Department of Education of the State of New York, and the American Bar Association. It is a member of the Association of American Law Schools.

While, in general, greater emphasis is placed upon North Carolina decisions, statutes, and practices than upon those of any other particular state, legal materials are studied as a part of the Anglo-American common-law system. Thus the School prepares its students for practice in other states as well as in North Carolina.

Candidates for admission to the School of Law must have completed, with a *C* average, a minimum of three years of work acceptable toward a baccalaureate degree at an approved college or university. If this work has followed the combined degree program offered by the College of Arts and Sciences or by the School of Business Administration of this University, the student may receive the bachelor's degree in Arts or in Business Administration, as the case may be, upon the satisfactory completion of the first year in law. Though, as indicated above, students may be admitted to the School of Law on the completion of a minimum of three years of college work, the School recommends completion of the work for a degree before entering upon the study of law.

Applicants are also required to take and receive a minimum score on the Law School Admission Test. Due to greatly increased enrollment pressures, a numerical quota now in effect may prevent admission of all applicants meeting minimum scholastic and test requirements. Details may be found in the catalogue of the School of Law.

Beginning students are admitted to the fall semester or to the Summer School, but not to the spring semester.

The curriculum covers a period of six semesters.

The School of Law is located in Manning Hall. The Law Library, in the charge of a law librarian and a staff of assistants, now approximates 110,000 volumes.

The students of the School of Law are regularly enrolled in the University, enjoy all the educational privileges of University students, and are amenable to general University regulations and to the special regulations of the School.

The summer session of the School of Law offers opportunities for students to supplement the work of the regular year by additional courses, some of which are not otherwise available, or to shorten the calendar period of study for the law degree. The summer faculty normally includes, as visiting professors, distinguished law teachers from other universities.

Opportunities for individual work are afforded to especially qualified students through membership on the student editorial staff of *The North Carolina Law Review.*

The Degree of LL.B. with Honors or with High Honors

The degree of LL.B. with honors will be awarded to those students who comply with the following requirements:

1. Complete the requirements for the LL.B. degree.

2. Attain a weighted average grade, upon all law courses taken, of 2.0 or better. (The weighted average is ascertained by assigning, for each semester hour, 1 for an *A,* 2 for a *B,* 3 for a *C,* 4 for a *D,* and 5 for an *F.* The total thus obtained is divided by the total number of semester hours taken by the student.)

3. Prepare and have accepted for publication in *The Law Review* two notes, or one article, or one note plus a contribution to the Annual Survey of North Carolina Case Law acceptable as the equivalent of a note.

The faculty of the School of Law may award the degree of LL.B. with High Honors to students who, in the judgment of the faculty, have achieved exceptional distinction on their work as a whole.

For further information, write to the Dean of the School of Law for the separate bulletin of the School.

THE SCHOOL OF LIBRARY SCIENCE

MARGARET ELLEN KALP, B.A., M.A. in L.S., *Acting Dean*
JEAN FREEMAN, A.B. (L.S.), B.A., *Assistant to the Dean*

General Statement

The School of Library Science opened in September 1931, as a unit of The University of North Carolina at Chapel Hill. Made possible originally by a grant from the Carnegie Corporation, it was the culmination of a series of library science courses offered in the summer and regular terms beginning in 1904. The School is accredited by the American Library Association and the Southern Association of Colleges and Schools.

Air-conditioned quarters for the School, comprising rooms for lectures, seminars, and laboratory work, a stack area for the School's library, and offices for the teaching and administrative staff, cover the entire top floor of the west wing of the Louis Round Wilson Library building.

The town school system maintains high school and elementary school libraries available for observation. Within driving distance of from thirty minutes to two hours are the State Library; the school and public library systems of Durham, Raleigh, and Greensboro; and the libraries of Duke University, North Carolina State University at Raleigh, and The University of North Carolina at Greensboro.

The School offers two curricula: an eighteen-semester-hour undergraduate program for students interested in preparing for positions as librarians in the public schools; and a master's program.

A bachelor's degree from an approved college or university is required for admission to the program leading to a degree; for additional requirements see the special catalogue of the School. A reading knowledge of modern languages is essential to satisfactory work in many types of libraries and very desirable in others.

Normally, students may enter the School at the beginning of any term, but the beginning of the summer session or fall semester is recommended in order to insure a full program of work. Some courses have prerequisites which cannot be taken unless the curriculum is begun at one of these times.

A minimum residence of two semesters in The University of North Carolina at Chapel Hill is required for any degree. All work credited toward a degree must be completed within a period of five years.

The courses of the regular session, with a few exceptions, are repeated in the summer session. The same requirements apply as in the regular session.

The present demand for professional librarians is unusually great. Requests are received almost daily from various types of libraries in this country and overseas for recommendations for all sorts of positions. Although the School cannot guarantee placement for its graduates, it assists them not only in securing their first positions but in advancing to other positions later.

Application for admission to the School for either the regular session or the summer session should be made as far in advance as possible of the session to be attended. Application should be made on forms which may be secured from the Assistant to the Dean, School of Library Science, The University of North Carolina at Chapel Hill, 27514.

For further information regarding the undergraduate courses see "School of Library Science," Part IV; for the graduate courses see the special catalogue of the School.

THE SCHOOL OF SOCIAL WORK

C. Wilson Anderson, D.S.W., LL.B., *Dean*

General Statement

The School of Social Work has developed from an earlier School of Public Welfare which was established in 1920 in accordance with the University's policy of meeting the varying needs of the state and the Southern region. In 1931 the School of Public Administration enlarged and extended the program for the training of qualified persons for public positions. An essential division within that school was the Division of Public Welfare and Social Work. In 1936 the Division of Public Welfare and Social Work became a Division of the Graduate School and in 1950, by action of the Board of Trustees, it was named the School of Social Work. The School of Social Work is a member of the Council on Social Work Education.

The School of Social Work consistently has emphasized sound training for the operation of the social services, whether those services are under public or private auspices. However, by reason of the nature and range of many of the problems in a state and region still predominantly non-urban there has been special reference to the unique opportunities for training workers to provide the highest quality of services in rural as well as in urban communities.

The applicant for admission to the Graduate School to pursue studies leading to the degree of Master of Social Work must have received a bachelor's degree from a college or university of recognized standing. The undergraduate courses must have included eighteen semester hours in anthropology, economics, history, political science, psychology, and sociology, at least six semester hours of which must have been in advanced courses in one of those fields. Admission to the School is based on an evaluation of the student's transcript, the Miller Analogies Test, references, written statement of his interest in the field and readiness to undertake graduate professional training, and personal interview.

Applications should be made as early as possible in the previous academic year.

The Master of Social Work degree is based upon a two-year program, consisting of two semesters of the first year, followed by the first and second terms of the Summer Session, and the fall and spring semesters. Admission to the first year is in September, while the second-year program begins in mid-July and is completed the following June. Supervised field work takes place in social welfare settings away from the campus: for first-year students from early February to late May, and for second-year students from early September to late January.

The first-year program is basic to whatever area of social work practice the student may eventually enter. During the second year, opportunity is offered for concentration in social agency administration, community development, and in many casework settings, including child welfare, family service, psychiatric social work, medical social work and corrections.

The School also operates an extension unit on the campus of the University at Greensboro, in which the first year of graduate professional training may be taken in two successive academic years. Admission to this unit is granted on the same basis as admission to the School, except that the applicant must be currently employed in a social work agency which will grant him released time for the unit's program.

A variety of training stipends and other financial resources are available. The largest number of stipends is made available directly to individual students by social welfare agencies. In such instances, the agency generally requires a stated period of employment with the agency following upon successful completion of the master's program. Inquiry should be made to public or voluntary social agencies in the state of anticipated residence. In North Carolina inquiries may be made to the Commissioner, State Board of Public Welfare, the Commissioner, State Department of Mental Health, or to the North Carolina Medical Care Commission.

The School of Social Work awards a limited number of stipends for the training of psychiatric, correctional, and school social workers from funds granted for this purpose by the National Institute of Mental Health. Several stipends are also available for the training of child welfare workers from funds furnished by the Children's Bureau, Department of Health, Education, and Welfare. In both instances, the stipends are awarded after admission to the School has been granted. Application for such stipends, however, should be made to the Dean of the School of Social Work at the time of application for admission.

Further information and the separate bulletin may be secured from the School of Social Work, Alumni Building, Chapel Hill, N. C.

THE SUMMER SESSION

JAMES REUBEN GASKIN, Ph.D., *Director*

General Statement

One of the earliest summer schools in America was established at The University of North Carolina at Chapel Hill in 1877. Eighteen sessions were held during the next thirty years. The Summer Session has operated annually since 1907 and has come to be an integral part of the academic organization of the University.

Curricula and courses that are offered during the Summer Session in all departments, schools, and colleges are identical with those of the fall and spring semesters. With a few exceptions, students may make progress toward fulfilling requirements for all undergraduate and graduate degrees offered by the University. All academic matters and all matters involving student activities in the summer are under the direction of the deans and departmental chairmen who handle these areas in the fall and spring semesters.

The Summer Session is divided into two terms of approximately six weeks each. Students who want to accelerate may graduate in three years by year-round study.

Admissions

The summer program is planned especially to meet the needs of the following groups: (1) graduates of accredited high schools who are entering the freshman class, (2) undergraduate and graduate students who are meeting degree requirements at this institution, (3) undergraduate and graduate visiting students who desire to take courses for transfer to other institutions, (4) teachers and administrators who desire to meet state certification regulations, and (5) other students who have special educational objectives and are not applicants for credit toward a degree.

Persons who desire to be admitted or readmitted in the Summer Session as regular undergraduate students should write to the Director of Admissions and as regular graduate students to the Dean of the Graduate School. Those who desire a copy of the Summer Session catalogue or other information and those who desire to enroll in the summer as visiting students should write to the Director of the Summer Session, 102 Peabody Hall, The University of North Carolina at Chapel Hill.

THE DIVISION OF HEALTH AFFAIRS

Joseph Carlyle Sitterson, Ph.D., *Chancellor*
Claiborne Stribling Jones, Ph.D., *Assistant to the Chancellor*
C. Arden Miller, M.D., *Vice Chancellor, Health Sciences*

The Division of Health Affairs of the University includes the schools of Medicine, Dentistry, Public Health, Nursing, and Pharmacy, the North Carolina Memorial Hospital (including the Psychiatric Center), and the Division of Health Affairs Library. It was established for the purpose of integrating and correlating the work of these professional schools and the teaching hospital in their teaching and research programs within the University. Equally important, the Division seeks to correlate the teaching, research, and service functions of the University Health Center with the hospital and health agencies and services throughout the state.

The Division is under the over-all direction of the Vice Chancellor, Health Sciences, with an Advisory Board composed of the deans of the various professional schools concerned, the Director of the North Carolina Memorial Hospital, and the Chief of Staff of the Hospital.

The Advisory Board of the Division of Health Affairs serves as the Administrative Board of schools in the Division. (See under Division of Health Affairs in "Officers and Administrative Boards of Colleges and Schools" in Part VI.)

The Division of Health Affairs Library

Myrl Lua-Frances Ebert, B.S., B.S. in L.S., M.S., *Librarian*

The Division of Health Affairs Library is located on the third floor of the Clinic Building, and with three branch libraries in other buildings, contains the collections for the schools of Medicine, Public Health, Dentistry, Pharmacy, and Nursing. Reorganized in 1952 when the two-year medical school expanded into a full four-year curriculum, and the concept of an integrated professional program emerged, the Library now possesses over 90,000 volumes to which approximately 4,000 are being added annually. Over 1,680 serial titles are received currently. A staff of twenty-five full- and part-time librarians and assistants are available for reference service and general aid in the use of the Library. Formal and informal lectures are given throughout the year in use of library resources and bibliographical research by the librarians.

In addition to the facilities of the General University Library with its departmental libraries of biology, chemistry, physics, etc.—which have over 1,250,000 volumes—the Division Library enjoys close affiliation with the General and Hospital Libraries of Duke University in Durham, and other medical libraries in the country.

THE SCHOOL OF DENTISTRY

James Wyatt Bawden, D.D.S., M.S., Ph.D., *Dean*
William Wellesley Demeritt, D.D.S., *Assistant Dean*
Andrew Dehart Dixon, L.D.S., B.D.S., M.D.S., B.Sc., Ph.D., D.Sc., *Assistant Dean*

General Statement

While the North Carolina Dental Society had given considerable thought to the organization of a School of Dentistry even as early as 1921 in the appointment of the first Dental College Committee, it was not until 1947 that a basic dental survey of North Carolina was authorized by the Society. The General Assembly of 1949, having studied the findings and recommendations of the survey, appropriated funds for the establishment of a School of Dentistry.

The building of the School of Dentistry is an integral part of the total building program of The University of North Carolina at Chapel Hill.

Dentistry in North Carolina has been given a signal opportunity to make a contribution to the health sciences in its close working relationship with the other schools and the Memorial Hospital. Students of dentistry and medicine attend comparable basic science courses, and they are required to meet equally high academic standards in all areas.

Each class will be limited to fifty-five students. Priority in selection of students will be given to residents of North Carolina.

A two- and a four-year curriculum for the training of dental hygienists was activated in the fall of 1953. Girls who have graduated from high school are permitted to enter this program for training. The two-year curriculum will lead to a certificate, while the four-year curriculum will lead to a bachelor's degree. Priority for admission will be given to North Carolina residents.

The School of Dentistry at Chapel Hill is fully accredited by the Council on Dental Education of the American Dental Association. This includes the curriculums leading to the D.D.S. degree, as well as the Certificate in Dental Hygiene.

PREPARATION FOR STUDY OF DENTISTRY AND REQUIREMENTS FOR ADMISSION

Students preparing for the study of dentistry should spend as much time securing a well-rounded cultural education as their age and financial resources permit. If possible they should complete the regular four-year course leading to the A.B. or B.S. degree. If this is impracticable they may take the special course leading to the B.S. in Dentistry, or they may take three years of academic work without the bachelor's degree in view, but with careful regard to meeting the specific requirements for admission to the School of Dentistry.

Three years of accredited college work (96 semester hours) are required for admission. This period of study should include a minimum of eight semester hours of inorganic chemistry (which may include qualitative analysis[1]); a course in quantitative analysis; eight semester hours of organic chemistry; eight semester hours of biology, zoology; eight semester hours of physics (which must have required trigonometry as a prerequisite); and English—such knowledge as is ordinarily required of candidates for a degree in an approved college (usually the courses required of freshmen and sophomores)[2]. In addition, courses in volumetric quantitative analysis, comparative anatomy, vertebrate embryology, and modern physics are recommended.

Because of the widening social and economic interests of the dental profession, students preparing to enter it should take, in addition to the requirements in the sciences, as many courses as possible in social science, history, literature, economics, philosophy, and psychology.

There are not sufficient facilities in the dental schools of the country to admit all students who meet the quantitative standards. For this reason, and because it requires more than average intelligence and aptitude to complete satisfactorily the dental curriculum, the quality of the student's undergraduate work is of the greatest importance.

National Aptitude Test

All prospective students must complete the National Aptitude Test, given by the Council on Dental Education of the American Dental Association, before they will be considered for admission to the School of Dentistry. This test will be given in Chapel Hill and at centers in other states at designated intervals. Additional information regarding the test may be secured when application for admission to the School of Dentistry has been completed.

Personal Qualifications

While a high grade of scholarship and digital dexterity are probably the best criteria for predicting achievement in dental school the personal qualifications of applicants are of the highest importance. Moral character is the most important prerequisite for entering the dental profession. No school wishes to train prospective dentists who lack either ethical standards or a sense of social responsibility.

Dental Curriculum

The course in dentistry embodies a four-year curriculum following admission to the School of Dentistry. The catalogue of the School of

1. If qualitative analysis is not included in course in inorganic chemistry, then a separate course should be completed in this special area of chemistry.

2. While a modern foreign language is recommended, it is not a requirement for admission to the School of Dentistry. However, all high school deficiencies must be satisfied as they pertain to admission to the University.

Dentistry provides a description of the courses and other details pertaining to the study of dentistry. This catalogue may be secured from the School of Dentistry.

Dental Hygiene Curriculum

A two-year curriculum leading toward a certificate and a four-year curriculum leading toward the degree of B.S. in Dental Hygiene are offered. The regular School of Dentistry catalogue gives complete information regarding curriculum, costs, and other items of information. This catalogue may be secured by writing to the Director of Admissions, The University of North Carolina at Chapel Hill.

Graduate Program

See the catalogue of the Graduate School or the School of Dentistry for information concerning graduate programs in pedodontics, periodontics, orthodontics, and prosthodontics.

THE SCHOOL OF MEDICINE

Isaac Montrose Taylor, A.B., M.D., *Dean*
William LeRoy Fleming, M.S., M.D., *Assistant Dean for Education and Research*
Christopher Columbus Fordham III, M.D., *Assistant Dean for Student Affairs*
William Perry Richardson, A.B., M.D., M.P.H., *Assistant Dean for Continuation Education*
John Mitchell Sorrow, B.S., M.D., *Assistant Dean*
James R. Turner, B.S., *Assistant Dean for Administration*
Walter Hollander, Jr., B.S., M.D., *Assistant to the Dean*
Walter Reece Berryhill, A.B., M.D., Sc.D., *Dean, Emeritus*

Historical Background

The School of Medicine was established in 1879 under the direction of Dr. Thomas W. Harris. A course in theoretical and practical medicine was offered under the preceptorial system, but the plan was found impracticable and was abandoned in 1886. In 1890, the school was reopened with Dr. Richard H. Whitehead as Dean and has since continued without interruption. At first, the course covered only one year, but in 1896, a two-year course was inaugurated, and in 1900, the School of Medicine, incorporated as an integral part of the University, was reorganized to meet the requirements of the first two years of the four-year course leading to the degree of Doctor of Medicine. For a brief period following 1902, it was expanded into a four-year school, with the clinical subjects of the third and fourth years offered in Raleigh under the direction of Dr. Hubert A. Royster as Dean, but this was abandoned, and from 1911 through 1952, only the first two years of the medical curriculum were offered at Chapel Hill. Students completing this curriculum transferred to four-year schools of medicine for the completion of their medical training. Approximately 25 percent of the physicians now in active practice in North Carolina received the first two years of their medical training at the University.

The North Carolina General Assembly of 1947 provided funds for the construction of a four-hundred-bed general hospital, enlargement of the Medical Science Laboratory Building and authorized the School's expansion to a full four-year curriculum. With instruction in the clinical years made possible on the campus at Chapel Hill, by 1953 four classes were in training, and the first class to receive the M.D. degree was graduated in 1954.

A one-hundred-bed tuberculosis and chronic chest disease hospital, a seventy-bed psychiatric wing to the general hospital, and a research wing have subsequently been added to the Medical School—North Carolina Memorial Hospital complex.

Construction began in May, 1966, on the James Spencer Love Ambulatory Patient Wing. Plans are nearing completion for a new Basic Science Educational Building and a new Medical Library, with

occupancy scheduled for late 1969. After completion of these facilities, first-year classes will increase from 75 to 100 students.

The School has been a member of the Association of American Medical Colleges since 1908 and has the full approval of the Council on Medical Education and Hospitals of the American Medical Association.

PREPARATION FOR MEDICINE AND REQUIREMENTS FOR ADMISSION

There is no "premedical" curriculum. However, there are required courses for admission to medical school which embrace a view as to the minimal preparation in specific areas. These requirements should be construed as just that, and the student who expects to enter medical school should make every effort to prepare himself further in the sciences, in higher mathematics, and in the humanities. Undergraduate education should be viewed as a major educational investment which the student makes in preparing himself for a career in a scientific discipline.

It is because of the widening social and economic responsibilities of medicine that students in preparing for this profession, should take as many courses as possible in the humanities, arts, and social sciences. Students are encouraged to select their majors freely in accord with their desires and interests but with the general effort to gain a broad background in fields other than the sciences related to the study of medicine.

Three years of accredited college work (96 semester hours or 144 quarter hours). This period of study should include as minimum: 8 or more semester hours (12 or more quarter hours) of general chemistry, which should include the essential techniques of qualitative and quantitative analysis or the equivalent; 8 semester hours (12 quarter hours) of organic chemistry; 8 semester hours (12 quarter hours) of biology including vertebrate zoology; 9 semester hours (12 quarter hours) of physics with trigonometry as a prerequisite; 12 semester hours (20 quarter hours) of English, or such knowledge as is ordinarily required for a liberal arts degree; 9 semester hours (15 quarter hours) of foreign language, or such knowledge as is ordinarily required for a liberal arts degree.

There is not sufficient space in the medical schools to admit all students who meet the quantitative standards. For this reason, and because it requires more than average intelligence and aptitude to complete satisfactorily the medical curriculum, the quality of the student's undergraduate work is of the greatest importance. All students interested in the study of medicine should attempt to stand in the upper third of their academic classes.

While a high grade of scholarship is probably the best criterion for predicting achievement in medical school, the personal qualifications

of applicants are of the highest importance. Moral character is the most important prerequisite for entering the medical profession.

The Dean and the Admissions Committee reserve the right to select from the entire list of approved applicants those who in their judgment are best qualified for the study of medicine.

Medical Curriculum

The course in medicine embodies a four-year curriculum. The catalogue of the School of Medicine provides a description of the courses.

Special Students

In addition to teaching medical students and graduate physicians, various departments in the Medical School offer instruction to students in related professional schools and the Graduate School. Students interested in such instruction should consult the chairman of the department concerned.

For details of the curricula leading to the Bachelor of Science degree in Medical Technology and in Physical Therapy see pages 66 and 55 respectively, of this catalogue and consult the special catalogue of the School of Medicine.

The North Carolina Memorial Hospital

The North Carolina Memorial Hospital, an integral part of the School of Medicine, provides the laboratory for clinical teaching for both undergraduate and graduate physicians.

In addition to its function as a laboratory for clinical teaching it serves as a diagnostic and treatment referral center for patients from all over North Carolina, both outpatient and inpatient, and as a center for a varied and extensive program of medical research. It makes available those highly skilled and specialized services needed for modern scientific medical care which can be provided only by a large, complex medical center.

It is fully accredited by the Joint Committee on Accreditation of Hospitals. It is approved by the Council on Medical Education and Hospitals of the American Medical Association for internship and residencies in medicine, surgery and most of the medical and surgical specialities, pediatrics, pathology, psychiatry, radiology, and obstetrics-gynecology.

THE SCHOOL OF NURSING

ELIZABETH LOUANNA KEMBLE, R.N., B.S., A.M., Ed.D., *Dean*
RUTH DALRYMPLE, B.S., M.N., R.N., D.P.H., *Assistant Dean*

General Statement

The School of Nursing offers a four-year curriculum leading to the degree Bachelor of Science in Nursing. Students are admitted as freshmen directly from high school. Students who have satisfactorily completed selected courses in accredited colleges may apply for admission to the School of Nursing as juniors. The program of studies is designed to provide well-organized learning experiences leading to the graduation of students who have acquired the necessary knowledges, skills, attitudes, and appreciations to function effectively in beginning positions of the profession, including public health nursing.

The program of studies covers four academic years and two terms of summer sessions. Courses are planned to include the social, biological, and physical sciences, the humanities, and nursing. Provisions are made for students to receive selected learning experiences in the hospitals, clinics, and a variety of institutions and agencies in the state. Through these planned experiences students acquire the understandings essential to maintenance of health, prevention of disease, and the care of those who are sick.

The School of Nursing also provides opportunity for graduates of diploma programs to receive comparable preparation. The length of this program is determined on an individual basis.

The Department of Baccalaureate and Higher Degree Programs of the National League for Nursing has granted full approval to the School of Nursing for the undergraduate program, and for the graduate program. The School of Nursing is a member agency of the National League for Nursing in the Department of Baccalaureate and Higher Degree Programs.

Students in the School of Nursing enjoy all the privileges of the University and are subject to all general regulations.

Classes are admitted in the fall semester of each year.

REQUIREMENTS FOR ADMISSION

Applicants must first meet the requirements for admission to the University.

In addition to satisfactory academic achievement, applicants are required to present evidence of physical and emotional fitness for nursing.

Applicants who have had two or more years of college work and who wish to transfer to the School of Nursing, The University of North

Carolina at Chapel Hill, with junior standing are required to present at least a *C* average in specified courses.

Eligibility for admission of registered nurses will be considered on an individual basis.

Further information may be obtained by writing to the Director of Admissions, The University of North Carolina at Chapel Hill.

All admissions are decided by a special committee on admission of the School of Nursing, after approval of credentials by the Director of Admissions of the University. This committee reserves the right to select from the entire list of approved applicants those who in their judgment are best qualified for the study of nursing.

Graduate Program

For graduate study in nursing see School of Nursing or Graduate School catalogues.

THE SCHOOL OF PHARMACY

GEORGE PHILIP HAGER, Ph.D., *Dean*
MELVIN ARTHUR CHAMBERS, Ph.D., *Assistant Dean*

General Statement

The School of Pharmacy was established as an academic unit of the University of North Carolina in 1897 in response to urgent requests from the pharmacists of North Carolina. After many years in Howell Hall (named in honor of the School's first dean, Edward Vernon Howell), the School now occupies a modern, well-equipped building, Beard Hall (dedicated in 1960 and named in honor of the School's second dean, John Grover Beard). The School of Pharmacy is located in a medical center on the Chapel Hill campus and, with the Schools of Medicine, Dentistry, Public Health, and Nursing, it is a unit of the University's Division of Health Affairs.

The School benefits from the excellent resources, both on and off the campus, that are required for a center of excellence for pharmaceutical education, research and service.

In its educational program, emphasis is given to the curriculum required for the Bachelor of Science in Pharmacy degree (B.S. in Pharm.). A five-year curriculum for this degree became mandatory in all schools of pharmacy starting in 1960 through actions taken by the American Association of Colleges of Pharmacy and the National Association of Boards of Pharmacy. This curriculum is designed and administered in accordance with the current and changing demands for pharmaceutical services in communities and institutions. The School's undergraduate pharmacy curriculum is up-to-date. It is broad and deep with respect to general education, training in the basic sciences and the pharmaceutical sciences, and professional principles and practices. It is administered with the flexibility necessary to accommodate the varying aspirations of individual students and, at the same time, with adequate rigidity to qualify the students as candidates for licensure as Registered Pharmacists and in every way for the important and expanding role of the pharmacist as a health professional. The graduate of the B.S. in Pharm. degree curriculum is qualified and motivated for the practice of clinical pharmacy (community pharmacy and institutional pharmacy), for professional and technical careers in industry and government, and for further study leading to advanced degrees in the pharmaceutical sciences and related physical, biological, and biomedical sciences.

The School offers the M.S. and Ph.D. degree candidates and postdoctoral participants coursework and research training and experience in the pharmaceutical sciences, especially pharmacy (biopharmaceutics, physical pharmacy, and hospital pharmacy) and medicinal chemistry.

The School also engages in the continuing education of pharmacists and pharmaceutical scientists and technologists, supporting their efforts to adapt to an expanding and dynamic science and technology.

The faculty, staff and students of the School of Pharmacy are actively involved in research and other scholarly pursuits in the professional, scientific and technological aspects of pharmacy. Through their work they contribute to the knowledge characteristic of the pharmaceutical sciences, the recording and communication thereof, and its application in the educational and service phases of the School's programs.

In the third, or service, phase of the School's three-fold mission, the faculty and staff promote the disciplines and support the missions of the pharmacist in clinical practice and the pharmaceutical scientist in industry, government, or elsewhere. This is done particularly by motivating and providing for continuing education at all levels, by innovating and contributing to the development of expanding pharmaceutical services, by engaging in the exploratory research that leads to new and improved pharmaceutical services and new drug products, and in the practical application of the results of their work by the profession and the industry, by contributing to good relations of the pharmacy profession and the pharmaceutical industry with the public and with other health professionals and, in general, by initiating and assisting the programs that will be beneficial to the pharmaceutical services required by a modern society.

The School of Pharmacy was admitted to membership in the American Association of Colleges of Pharmacy in 1917. This organization was formed for the promotion of sound educational programs and productive research and scholarly efforts in pharmacy and the pharmaceutical sciences. It maintains high standards for membership based on the quality of the faculty of its member institutions and the excellence of their instructional programs and their resources for education and research.

The School of Pharmacy of the University of North Carolina is accredited by the American Council on Pharmaceutical Education. The School is also accredited by all State examining boards.

Students are admitted to a four-year program of professional studies in the the School of Pharmacy upon completion of at least one year (the prepharmacy year) of collegiate work in the General College of the University of North Carolina or in any accredited liberal arts college (1-4 program). Students who present two or more years of accredited collegiate work (including the required courses) before admission to the School of Pharmacy usually can complete their professional training in three years (2-3 program). As of January 1, 1938, the American Association of Colleges of Pharmacy stipulated for its member schools that students transferring from a college other than another school of pharmacy must spend a minimum of three years in the School of

Pharmacy for the B.S. in Pharm. degree. Each application for admission must be approved by the Director of Admissions of the University. Applications should be filed as early as possible, preferably before February 1st of the calendar year in which the student desires admission. Applications received later in the year will be given every consideration within the limits imposed by the number of students admitted at an earlier date.

For students who transfer to the School of Pharmacy from another accredited School of Pharmacy, the minimum residence required for the degree is one academic year, that is, two semesters within a twelve month period. Such students must complete at least thirty semester hours while in residence in the School of Pharmacy.

Graduate degrees offered through the School of Pharmacy are administered by the Graduate School of The University of North Carolina at Chapel Hill. These degrees include the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) in pharmacy and medicinal chemistry.

For further information, please write to the dean of the School of Pharmacy and refer to the special catalogue of the School.

THE SCHOOL OF PUBLIC HEALTH

William Fred Mayes, B.S., M.D., M.P.H., *Dean*
William Shoemaker Flash, A.B., M.P.A., Ph.D., *Assistant Dean*
John T. Gentry, A.B., B.S., M.D., M.P.H., *Assistant Dean*
Charles L. Harper, A.B., M.S.P.H., *Assistant Dean*
John Edgar Larsh, Jr., A.B., M.S., Sc.D., *Assistant Dean*

General Statement

The School of Public Health is one of thirteen such schools in the United States accredited by the American Public Health Association. The mission of the School is to prepare individuals for professional health careers aimed at preventing disease and disability and in analyzing, improving, promoting and maintaining the optimum health of the public. Students successfully completing programs of study pursue careers, for the most part either in a health service organization or in educational and other organizations in such roles as researchers, investigators, teachers, technical specialists and consultants.

The School of Public Health is comprised of ten Departments and a Continued Education Service. The Departments are administration, biostatistics, epidemiology, health education, maternal and child health, mental health, public health nursing, nutrition, parasitology, and environmental sciences and engineering.

As a part of the School's teaching, research and service responsibilities, close affiliations are maintained with other graduate schools and Departments on the University of North Carolina campus, as well as with other schools and universities and health services and research organizations. Such affiliations are statewide, national, and international in scope. The nature of the various affiliations includes joint sponsorship and effort in a number of teaching and research programs, joint faculty appointments, and establishment of field training centers for students in a number of official and voluntary federal, state and local health organizations.

Graduate degrees offered by the School of Public Health are the Master of Science (M.S.), Doctor of Philosophy (Ph.D.), and the following professional graduate degrees: Master of Science in Public Health (M.S.P.H.), Master of Science in Sanitary Engineering (M.S. S.E.), Master of Public Health (M.P.H.), and Doctor of Public Health (Dr.P.H.). All requirements concerning these degrees are administered by the faculty of the School of Public Health with the approval of the Administrative Board of the Graduate School.

For information concerning preparation and admission requirements and proposed curricula leading to degrees, see the catalogue of the School of Public Health.

THE GRADUATE SCHOOL

[1]Everett D. Palmatier, Ph.D., *Vice Chancellor for Advanced Studies and Research*
[2]James C. Ingram, Ph.D., *Dean*
[3]Earle Wallace, Ph.D., *Acting Dean*
Sally Denton Coe, *Director of Graduate Admissions*

General Statement

To those who have already completed a college course, the Graduate School offers an opportunity for advanced study in many learned disciplines and professional programs. One of a relatively small number of institutions with membership in the Association of American Universities, the University is held in high regard both in the United States and in other countries for the excellence of its graduate programs. Through its research organizations and learned journals and through the publications and other contributions of its faculty, The University of North Carolina at Chapel Hill has earned the authority to give advanced instruction. To promote the cause of learning, it has continually endeavored to maintain a distinguished faculty, an excellent research library, and modern, well-equipped laboratories.

Instruction leading to the master's degree was offered at this institution previous to the American Civil War, and such higher degrees were granted in course. Formal action with high standards in requirements was taken in 1876 to establish a system of graduate, as distinct from undergraduate, instruction. The first doctor's degree was awarded in 1883. A Graduate Bulletin, issued in 1885, showed that nearly all departments offered advanced courses. The number of students during those years was small, but the work accomplished in both the humanities and the sciences was of distinguished quality. Given distinct status in 1903 and the leadership of a dean, the Graduate School has experienced steady and, since 1920, rapid growth.

Work for advanced degrees is under the supervision of the graduate faculty. Under authority delegated by the graduate faculty, the immediate direction of the Graduate School is in the charge of an Administrative Board, of which the Dean is chairman. Special requirements and regulations made by this board are outlined in the catalogue of the Graduate School, which is published annually and is the official publication of the Graduate School.

CURRICULA AND DEGREES

The degrees under the supervision of the graduate faculty are the Master of Arts (A.M.), Master of Science (S.M.), and Doctor of Philosophy. Degrees of Master of Arts or Master of Science are offered

1. This office separated from Graduate School July 1, 1966.
2. Effective September 1, 1966.
3. Effective February 4, 1966; returned to Associate Deanship, September 1, 1966.

in anthropology, art, bacteriology and immunology, biochemistry and nutrition, botany, business administration, chemistry, classics, dramatic art, economics, education, English, geography, geology, Germanic languages, history, information science, linguistics, slavic and oriental languages, journalism, mathematics, music, nursing and public health nursing, oral pathology, orthodontics, pathology, pedodontics, pharmaceutical chemistry and pharmacy, philosophy, physical education, physics, physiology, political science, prosthodontics, psychology, public health, romance languages, sociology, statistics, and zoology, and in the special curricula in comparative literature, folklore, and genetics. The degree of Doctor of Philosophy is offered in anthropology, art history, bacteriology, biochemistry, botany, business administration, chemistry, city and regional planning, classics, economics, education, English, epidemiology, geography, geology, Germanic languages, history, linguistics, slavic and oriental languages, mass communication, mathematics, music, parasitology, pathology, pharmaceutical chemistry and pharmacy, philosophy, physics, physiology, political science, psychology, public health education, biostatistics, romance languages, environmental sciences and engineering, sociology, statistics, and zoology, and in the curricula in comparative literature and genetics.

Professional graduate degrees are offered in art (Master of Arts in Creative Art), business (Master of Business Administration), communication (Master of Arts in Communication), dentistry (Master of Science in Pedodontics, Master of Science in Orthodontics, Master of Science in Oral Pathology, Master of Science in Periodontology, and Master of Science in Prosthodontics), education (Master of Arts in Teaching, Master of Arts in College Teaching, Master of Education, and Doctor of Education), library science (Master of Science in Library Science), music (Master of Music), nursing (Master of Science in Nursing), public administration (Master of Public Administration), public health (Master of Science in Public Health, Master of Public Health, Master of Science in Sanitary Engineering, and Doctor of Public Health), recreation administration in the Department of Sociology and Anthropology (Master of Science in Recreation Administration), regional planning (Master of Regional Planning), and social work (Master of Social Work).

Curriculum in Comparative Literature

Administrative Committee: Professor W. P. FRIEDERICH,[4] *Chairman;* Professors H. E. DAVIS, JACQUES HARDRÉ, JAMES R. GASKIN, CARROLL C. HOLLIS, GEORGE A. KENNEDY, HERBERT W. REICHERT, W. J. DESUA.

The Curriculum in Comparative Literature offers students an opportunity to become familiar with the work of the leading figures of Western Literature and thereby to acquire a particularly broad and

4. Kenan Professor.

liberal education. An undergraduate major in Comparative Literature consists of eight courses, two of which must be in the classics (e.g., 103, 107 or 109) and two must be chosen from among 170, 175, 177, 180, 181 or 182. In their major and their minor, students are urged to concentrate on two or three literatures and to develop at least one foreign language and literature to a fairly advanced level. They must see Dr. Friederich at the beginning of their junior year.

Curriculum in Folklore

Administrative Committee: The Dean, *Chairman;* Professor D. W. PATTERSON, *Secretary;* Professors U. T. HOLMES,[5] A. P. HUDSON,[6] G. B. JOHNSON,[5] J. G. KUNSTMANN, W. MASON, JACQUES HARDRÉ, JOHN GULICK.

The facilities of the University available in the departments of Anthropology, English, Germanic Languages, Music, Romance Languages, and Sociology have been mobilized in the interest of students who desire to undertake a major or a minor in folklore. A candidate for the A.M. degree may secure a major and a candidate for the Ph.D. degree may secure a minor in that subject.

Curriculum in Genetics

Administrative Committee: The Dean, *Chairman;* Professors JOHN B. GRAHAM, *Secretary;* HENRY NEIL KIRKMAN, MAURICE WHITTINGHILL; Associate Professors ROBERT ELSTON, EDWARD GLASSMAN, HARRY GOODER; Assistant Professors EDWARD G. BARRY, ROBERT A. GOYER, GEOFFREY HAUGHTON, JOHN CHARLES LUCCHESI, WILLIAM S. POLLITZER.

The Curriculum in Genetics mobilizes the staff and facilities within the University for the study of this rapidly developing area of modern biology. The Curriculum provides an integrated, interdepartmental program of study leading to the degree of Doctor of Philosophy in Genetics. It also provides a Genetics minor for persons majoring in other departments, particularly Anatomy, Bacteriology, Biochemistry, Biostatistics, Botany, Pathology, Psychology and Zoology. Persons majoring in other departments than those listed may be accepted for minor credit by approval of the committee.

Curriculum in Recreation Administration

Administrative Committee: The Dean, *Chairman;* H. D. SESSOMS, *Director;* Professors C. WILSON ANDERSON, C. E. BOWERMAN, H. E. DAVIS, RICHARD ELMER JAMERSON, J. A. PARKER, THOMAS ADOLPH STEIN; Instructor M. E. FORTUNE.

This special program leading to the degree of Master of Science in Recreation Administration brings into cooperation several disciplines which include the schools of Business Administration, Social Work, and Education, and the departments of Anthropology, Dramatic Art,

5. Kenan Professor.
6. Kenan Professor, Emeritus.

Physical Education, Political Science, and Sociology. Although a common core of courses is required, there are, through the minor field offerings, many diversified areas for specialization. Within the curriculum is a special option in recreation for the ill and handicapped.

Summary of Requirements for the Degree of Master of Arts or Master of Science

1. A bachelor's degree from a recognized institution.

2. A minimum residence period of two semesters or part-time residence credit sufficient in amount for completion of the course requirement. All work credited toward degrees must be completed within a period of five years.

3. A reading knowledge of one modern foreign language. This requirement must be satisfied prior to admission to candidacy.

4. Application for admission to candidacy for the master's degree must be filed not later than the deadline date shown in the Calendar of Events for that semester in which the student expects to graduate. Application must be resubmitted by the same deadline dates if candidate fails to graduate at the expected time.

5. Thirty semester hours, eighteen to twenty-one of which must be in the department of the major, and nine to twelve in the department of the minor.

6. A written examination in the field of the major.

7. A thesis.

8. A final oral examination covering the entire field of study.

Summary of Requirements for the Degree of Doctor of Philosophy

1. Admission is the same as for the master's degree.

2. A minimum of two years of graduate study, at least one of which must be at The University of North Carolina at Chapel Hill. All work credited toward the degree must be completed within a period of eight years.

3. A reading knowledge of two modern foreign languages recommended by the department of the major. Another research skill may be substituted for one language if approved by the Administrative Board of the Graduate School.

4. Application for admission to candidacy for the Ph.D. degree must be filed not later than the deadline date shown in the Calendar of Events for that semester in which the student expects to graduate. Application must be resubmitted by the same deadline dates if candidate fails to graduate at the expected time.

5. A major adequately covering the field of major interest and a minor, which may or may not be in a different department and which satisfies the appropriate department or departments.

6. A doctoral oral examination.

7. A written examination in the field of major interest.

8. A dissertation.

9. A final oral examination covering the dissertation and such topics as the examination committee may determine.

Summary of Requirements for Professional Degrees

Requirements for professional graduate degrees, under the supervision of the graduate faculty, are described in the Graduate Catalogue and in some special catalogues of schools and departments concerned. Since these requirements differ in some respects from those summarized above, the special catalogues for the following should be consulted: the Graduate School of Business Administration, Department of City and Regional Planning, School of Dentistry, School of Education, School of Library Science, School of Nursing, Department of Political Science, School of Public Health, School of Social Work, and the Department of Radio, Television, and Motion Pictures.

Catalogue of the Graduate School

For information concerning the graduate faculty, fields of research, fellowships and other aids, expenses and tuition, and for regulations governing courses of study, credits, admissions, examinations and higher degrees, references must be made to the special catalogue of the Graduate School.

Part Four

ACADEMIC DEPARTMENTS

DESCRIPTION OF COURSES

In this section are listed all courses offered in the regular sessions of the University except those in the professional schools of Law, Medicine, Dentistry, Nursing, Pharmacy, Library Science, and Social Work. For courses in these schools see the special bulletins.

The requirements for majors are shown, after the faculty lists, in connection with the materials concerning the various departments.

The work of the University, except in the schools of Dentistry, and Medicine, is arranged and offered on the semester system, the regular session being divided into two approximately equal parts called the fall and spring semesters. The summer session is divided into two terms.

Work is valued and credited toward degrees by semester hours, one such hour being allowed for each class meeting a week for a semester, laboratory or field work counting one hour for each two hours of work in laboratory or field, and work in studio (art) counting one hour for each three hours. In the following announcements of courses the numbers in parentheses following the descriptive titles show the credits allowed in semester hours. Except in the case of courses meeting regularly three times a week, the number of actual hours a course meets will be found in the description of the course. The meetings of a few advanced courses, however, are arranged by the instructor in charge.

In the event that required freshman subjects are taken after a student begins his junior year or required sophomore subjects after he begins his senior year, such subjects carry half credit only.

Courses numbered from 1 through 99 are for undergraduates only; those numbered from 100 through 199 are for advanced undergraduates and graduates; those numbered from 200 to 399 are for graduates only. Undergraduates may not take courses numbered above 200 except by special permission of the instructor in the course and the chairman of the department. Permission must also be secured from the Dean of the Graduate School and the dean of the college involved. Courses numbered from 1 to 100 carry no credit toward any advanced degree.

DEPARTMENT OF AEROSPACE STUDIES

Professor: RALPH B. HEMMIG, *Lieutenant Colonel,* USAF
Assistant Professors: T. F. HAMILTON, *Major,* USAF; N. D. SAUVAGE, *Captain,* USAF
Administrative: D. J. WELLS, *Technical Sergeant,* USAF; W. J. VOGEL, *Staff Sergeant,* USAF

General Information

The Air Force ROTC unit constitutes a regular department of instruction in the College of Arts and Sciences and is known as the Department of Aerospace Studies. The new two-year AFROTC program is offered on an elective basis to all university students as authorized by the "Reserve Officers Training Corps Vitalization Act of 1964."

The two-year program is designed to provide instruction that will develop students in the skills required of the professional Air Force officer. Admission to the Professional Officer Course (POC) is by competitive selection from those students who have met the minimum requirements for direct entry into the new two-year program. Cadets qualifying for and desiring pilot training will receive 36½ hours of flight instruction during their second year.

Selective Service Deferment

All cadets in the Professional Officer Course (POC) are deferred from induction into the Armed Forces. Cadets pursuing, but not formally enrolled in the POC, cannot be deferred.

Enrollment Requirements

A student enrolling in the AFROTC must enter at an age which will enable him to complete all requirements for a commission prior to his 28th birthday. Enrollees must agree to complete their degree requirements, to accept, if tendered, an appointment as a commissioned officer in the United States Air Force, and to serve on active duty for a period of not less than 4 years.

Entrance into the new two-year program requires attendance at a six-week field training course at a designated Air Force Base prior to acceptance. A student who has completed the lower division at another accredited institution or has had more than six months' honorable active service in the Air Force, Army, Navy, Marine Corps, or Coast Guard, may be eligible for enrollment in the upper division program. In addition he must:

1. Be a citizen of the United States.
2. Not have reached twenty-six years of age at the time of initial enrollment.
3. Be physically fit as evidenced by a physical examination.
4. Successfully accomplish an Officer Qualification Test.

5. Be selected by the Professor of Aerospace Studies.
6. Sign a category agreement and statement of understanding acknowledging requirement for enlistment in the Air Force Reserve with assignment to the Ineligible Reserve Section of the ready reserve with parental consent if under 21 years of age.
7. Be in good academic standing with the University.

Emoluments

ROTC textbooks and uniforms are provided without cost to all cadets. In addition, they receive subsistence in the amount of $800. They are also paid $120 for attendance at the six-week field training session on an Air Force Base, plus travel expenses to and from the base. They are entitled to free air travel aboard USAF aircraft on a space available basis while enrolled in the POC.

Academic Credits

Cadets who successfully complete the two-year program receive 12 semester hours credit. This credit may be substituted for three elective courses in the upper college and undergraduate schools as follows:

Aero 51 (3 hrs.)—one allied elective
Aero 52 (3 hrs.)—one non-divisional elective
Aero 61 (3 hrs.)—one allied or non-divisional elective
Aero 62 (3 hrs.)—no course credit

Commissions in the United States Air Force

Cadets who successfully complete the requirements for a degree and the Air Force ROTC course of instruction are commissioned Second Lieutenants in the United States Air Force Reserve and called to active duty. Distinguished military graduates of the ROTC program may be offered a Regular commission in the United States Air Force.

Graduate Study for Newly Commissioned Officers

Academic deferments may be granted to those who wish to continue studies at the graduate level. These deferments are granted on a year-to-year basis up to a maximum of four years.

Outstanding cadets are encouraged to apply for graduate study under the Air Force Institute of Technology. This training can be initiated immediately after being called to active duty. Study is conducted at an accredited civilian institution at no cost to the officer. Officers receive full pay and allowances while attending school under this program.

Curriculum

The Professional Officer Education Program (Upper Division)

51 GROWTH AND DEVELOPMENT OF AEROSPACE POWER (3 each).
52 A survey course about the development of airpower in the United States; Air Force concepts, doctrine, and employment; astronautics and space operations; and the future development of aerospace power. Includes the United States space programs, vehicles, systems, and problems in space exploration. *Three lecture, and one laboratory hour a week, fall and spring.* Staff.

61 THE PROFESSIONAL OFFICER (3 each). A study of professionalism,
62 leadership, and management. Includes the meaning of professionalism, professional responsibilities, the military justice system, leadership theory, management tools, practices and controls. *Three lecture and one laboratory hour a week, fall and spring.* Staff.

CURRICULUM IN AMERICAN STUDIES

R. C. LYON, *Chairman*. Advisory Committee: Professors J. GULICK, R. M. MILLER, Associate Professor S. S. HILL

The Curriculum in American Studies, an undergraduate program leading to the B.A. in American Studies, draws on courses of many departments which contribute to the study of the civilization of the United States. The course requirements lead the student to examine American society, past and present, from many points of view: the works of historians, artists, anthropologists, sociologists, political scientists, religious leaders, urban planners, etc., are studied with the aim of discovering inter-relations among diverse aspects of our culture and its changing patterns of ideas and values.

Two courses in American Studies (see below) are required of all majors, and are designed to bring together the materials and methods of the several disciplines. In addition, majors take: (1) six core courses: English 81, 82; History 145, 146; Political Science 162; Religion 135 (2) six to eight courses distributed among literature, the arts, philosophy, religion, the social sciences, and history (3) five to seven electives from the natural sciences or courses in other divisions with a major emphasis on a foreign civilization. For a more complete listing of the courses under (2) see "The College of Arts and Sciences: Requirements for Degree" in this catalogue.

Prospective majors should see the Chairman of the Curriculum.

Courses

40 INTRODUCTION TO AMERICAN STUDIES (3). Permission of the instructor required. Exposition of interdisciplinary methods and of the concept of American Studies; discussion of the ideas of a "national character" and a "culture"; exploration of a topic. Required of all American Studies majors; normally to be taken in the sophomore year, but may be taken in the junior year. *Spring.* Lyon (Department of English).

80 AMERICA AS A CIVILIZATION (3). Permission of the instructor required. An over-view of American civilization in the terms of the various departments which cooperate in the American Studies Curriculum, with special attention to selected topics. Required of all American Studies majors; to be taken in the senior year. *Fall.* Miller (Department of History).

DEPARTMENT OF ANATOMY[1]

Professors: C. W. HOOKER, *Chairman,* W. C. GEORGE,[2] A. D. DIXON, C. D. VAN CLEAVE
Visiting Professors: F. R. WEEDON, D. C. HETHERINGTON
Associate Professor: C. T. KAYLOR
Assistant Professors: G. R. HOLCOMB, W. S. POLLITZER, H. E. MAYBERRY, M. C. SINGLETON
Instructors: R. N. WOOTEN, JR., R. L. MONTGOMERY

Courses for Undergraduates

41 INTRODUCTORY HUMAN ANATOMY (3). A general course to meet the needs of persons preparing for careers as dental hygienists. *Two lecture and two laboratory hours a week, fall semester.* Wooten.

91ab GROSS ANATOMY (11). For students of Physical Therapy. *Four lecture and eleven laboratory hours a week, fall and winter quarters.* Van Cleave, Kaylor, Holcomb, Singleton.

92 HISTOLOGY (4). Study of the fundamental tissues and of the microscopic anatomy of the cardiovascular system, lymphoid organs, bone marrow, and skin. For students of Physical Therapy. *Four lecture and eight laboratory hours a week for six weeks, fall quarter.* Singleton, Dixon, Mayberry.

93 NEUROANATOMY (1½). An introductory study of the central nervous system. For students of Physical Therapy. *A total of six lectures and eighteen laboratory hours, spring quarter.* Singleton.

Courses for Graduates and Advanced Undergraduates

101 CENTRAL NERVOUS SYSTEM AND ORGANS OF SPECIAL SENSE (5½). *Four lecture and six laboratory hours a week, spring quarter.* Hooker, Mayberry, Montgomery.

102 GENERAL HISTOLOGY AND ORGANOLOGY (6½). *Four lecture and eight laboratory hours a week, fall quarter.* Hetherington, Hooker, Wooten.

103 EMBRYOLOGY (2¾). *Two lecture and four laboratory hours a week, spring quarter.* Dixon, Weedon.

105ab ANATOMY (9⅓). *Three lecture and nine laboratory hours a week, fall and winter quarters.* Pollitzer, Montgomery.

106 HISTOLOGY AND ORGANOLOGY (6⅔). *Five lecture and ten laboratory hours a week, fall quarter.* Dixon, Mayberry.

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1. This is also a department in the School of Medicine which operates on the quarter system. Therefore, some of its courses are taught by the quarter. The credit in parentheses after the course title is in semester hours.
2. Professor, Emeritus.

107ab GROSS ANATOMY (12⅔). *Four lecture and eleven laboratory hours a week, fall and winter quarters.* Van Cleave, Kaylor, Holcomb.

112 PHYSICAL ANTHROPOLOGY (Anthropology 112) (3). *Three lecture hours a week, spring semester.* Holcomb, Pollitzer.

Courses for Graduates

207 REGIONAL ANATOMY (2 or more). *Time to be arranged.* Staff.

310 RESEARCH (2 or more). Staff.

400 GENERAL REGISTRATION (0).

DEPARTMENT OF ANTHROPOLOGY

Professors: J. GULICK, *Chairman,* G. B. JOHNSON,[1] J. J. HONIGMANN,[2] J. L. COE, DOROTHEA C. LEIGHTON
Associate Professors: R. PATRICK,[3] R. W. LIEBAN,[4] R. L. RANDS,[5] P. R. GOETHALS, D. L. BROCKINGTON, B. N. COLBY
Assistant Professors: G. R. HOLCOMB, W. S. POLLITZER, F. T. CLOAK, JR., J. L. PEACOCK III
Visiting Assistant Professor: JULIA CRANE
Lecturers: NANCY BOWERS, MARY SANCHES
Part-time Instructors: T. K. FITZGERALD, C. B. GAKENHEIMER
Teaching Assistants: M. M. ROGERS, F. V. MUSSARE, R. L. SMITH, M. E. STEPHENS

The Department's course offerings are intended to open up systematic perspectives on the nature of mankind. This is accomplished by means of detailed studies of: (1) the physical and cultural origins and developments of human beings in general; (2) the differing patterns of culture in all parts of the present-day world; and (3) the interrelationships between human beings' physical and cultural natures and their various reactions to the crises of change in the 20th Century, A.D.

Although the Department offers major programs leading to the A.B., A.M. and Ph.D. degrees, its courses are also open to non-majors, and for the most part they do not have any prerequisites. Those courses which do have prerequisites are specifically identified as such.

UNDERGRADUATE MAJOR: Anthropology 41, preferably taken in the sophomore year, and six other anthropology courses, preferably not including Anthropology 122; together with seven courses in allied (i.e., Social Science Division) fields; and seven courses in non-allied fields. As many as four sociology courses may be taken in the allied field.

The undergraduate major can serve as the core of a general liberal arts education. It can also serve as an introduction to graduate work in anthropology and as an orientation for a variety of occupations in

1. Kenan Professor.
2. Absent on leave, Spring Semester, 1967.
3. Absent on leave, 1966-1967; resigned August 31, 1967.
4. Absent on leave, 1966-67.
5. Resigned August 31, 1966.

which knowledge of the behavioral sciences is either required or is highly desirable.

HONORS IN ANTHROPOLOGY: Students with a grade average of *B* or better are encouraged to apply for candidacy for the A.B. with honors. The honors program consists of seven anthropolgy courses (besides Anthropology 41) which include Anthropology 95 and 96. These two courses provide the student with opportunities for independent study, research and writing under faculty guidance. A special section of Anthropology 41 (Anthropology 41A) is open to superior students (whether or not they are anthropology majors) with the permission of the instructor.

Detailed information on the honors program can be obtained from the Chairman of the Department.

GRADUATE PROGRAM: The A.M. and Ph.D. degrees are offered. It is the purpose of the graduate program to provide professional training for anthropologists. Each candidate for a higher degree takes, together with his anthropology courses, a series of courses in a "minor field" which supplements and strengthens his specialization in anthropology. Courses in anatomy, epidemiology, folklore, geography, geology, genetics, linguistics, psychology, or sociology can be particularly appropriate for the minor program, but others can be arranged.

More detailed information about the graduate program is available in the Graduate School Catalogue and in mimeographed materials available from the Department.

Courses for Undergraduates

41 GENERAL ANTHROPOLOGY (3). An introduction to anthropology, the science of man the culture-bearing animal. Topics considered: physical evolution of mankind, modern racial types, prehistoric and historic developments of culture, and cultural dynamics viewed analytically and comparatively. *Fall and spring.* Staff.

42 FOLK CULTURES IN THE MODERN WORLD (3). The customs and institutions of peoples in the Mediterranean area, Asia, Africa, and Latin America as they encounter technological and social development in the modern world. (Not offered in 1966-1967.) *Spring.*

55 INTRODUCTION TO THE CIVILIZATION OF INDIA AND PAKISTAN (3). The course reviews urban and rural ways of life and the transformation of culture following British rule. Islam, Buddhism, caste, family life, and values are examined as as well as several ways of life and problems besetting the countries as they pursue national goals. (1968-1969 and alternate years.) *Fall.* Honigmann.

95 HONORS SEMINAR (3). Open only to senior honors candidates. Advanced survey of anthropology and critical analysis of leading theoretical ideas in the field. *Fall.* Staff.

96 HONORS RESEARCH (3). Open only to senior honors candidates. Special research in a selected field under the direction of a member of the Department. *Spring.* Staff.

Courses for Graduates and Advanced Undergraduates

100 OLD WORLD PREHISTORY (3). A course designed to provide anthropology majors and other students of comparable behavioral science sophistication with a basic background in the development of man and culture in the Old World. *Fall.* Coe.

112 PHYSICAL ANTHROPOLOGY (Anatomy 112) (3). An introductory survey of physical anthropology, including the place of man among the primates, human evolution, and racial differences. Consideration is also given to osteology and the interrelationship of cultural and biological factors. (1967-1968 and alternate years.) *Spring.* Pollitzer.

113 INTRODUCTION TO DESCRIPTIVE LINGUISTICS (Linguistics 100) (3). (See Linguistics 100 for description.) *Fall.* Burke.

114 INTRODUCTION TO COMPARATIVE AND HISTORICAL LINGUISTICS (Linguistics 101) (3). (See Linguistics 101 for description.) *Spring.* Tsiapera.

115 GENETICS AND HUMAN EVOLUTION (Genetics 115) (Anatomy 115) (3). Prerequisite, Introductory Biology or permission of the instructor. Fundamental principles of genetics; population genetics; genetic equilibrium; race and species formation; the factors of evolution; and the relation of these principles to man and the primates. Blood groups and other traits as illustrations. (1966-1967 and alternate years.) *Spring.* Pollitzer.

120 CULTURE CHANGE AND UNDERDEVELOPED AREAS (3). Theories and case studies of culture change will be discussed. Problems of culture change in less developed areas of Asia, Africa and Latin America will receive particular attention. *Fall.* Cloak.

121 CULTURE AND PERSONALITY (Sociology 121) (3). Broad survey of methods and problems connected with studying personality features characteristic of tribes and modern nations, child training and personality, and the relationship of culture to mental illness. *Spring.* Honigmann.

122 CULTURAL ANTHROPOLOGY (Sociology 122) (Folklore 122) (3). Ordinarily may not be taken for credit by graduate majors and minors in anthropology. A systematic survey of the customs and modes of life of mankind based on scientific explanation of the ways of culture. *Fall.* Johnson.

123 ANTHROPOLOGY OF RELIGION (Folklore 123) (3). The course examines over a hundred years of speculation about the origin of religion and its place in culture, including the thought of Marx, Durkheim, and Freud. It gives attention to ritual, magic, myth, and revitalization movements. Students are urged to see these phenomena as they operate in modern society and to develop for themselves a congenial theory of religious behavior. (1967-1968 and alternate years.) *Fall.* Honigmann.

126 AFRICA: PEOPLES AND CULTURES (Folklore 126) (3). A survey of geography, race, languages, and cultures of Africa south of the Sahara, with some attention to current problems of rapid social change. *Fall.* Johnson.

127 ABORIGINAL CULTURES OF MEXICO AND CENTRAL AMERICA (Folklore 127) (3). The development of Indian cultures of Middle America, culminating in such civilizations as the Aztec and Maya; archaeological and ethno-historical data synthesized. (Not offered in 1966-1967.) *Fall.* Brockington.

129 SOUTHEAST ASIA: PEOPLES AND CULTURES (3). A survey of cultures in Indonesia, the Philippines, and mainland Southeast Asia. Traditional

influences and the impact of major contemporary changes on societies of the area will be discussed. *Fall.* Goethals.

130 INDIANS OF NORTH AMERICA (Folklore 130) (3). A descriptive study of the culture areas of North America at the time of European contact, with emphasis on the Southeast. *Spring.* Coe.

132 LATIN-AMERICAN CULTURES (Folklore 132) (3). Latin American cultural development and social change as seen against the background of aboriginal cultures and evaluated in the light of anthropological concepts and theories. (Not offered in 1966-1967.) *Spring.* Colby.

135 THE NATURE OF CULTURE (Folklore 135.) (3). Symbolizing as the primal mechanism of culture, exemplified in the arts, religions, social and linguistic structures, and world-view of various cultures. (Not offered in 1966-1967.) *Fall.* Peacock.

136 COMPARATIVE SOCIAL ORGANIZATION (Sociology 136) (3). Prerequisite, permission of the instructor. An analysis of recurrent types of social groups: kinship systems, localized communities, and supra-community structures. Types are viewed in terms of a world-wide sample of societies of various scales of complexity. (1966-1967 and alternate years.) *Spring.* Gulick.

137 THE MIDDLE EAST: PEOPLES AND CULTURES (Folklore 137) (3). Emphasis on current acculturation problems as related to the various ecological, social, linguistic, and religious systems of the area whose cultural history is also considered. (1967-1968 and alternate years.) *Fall.* Gulick.

138 PEOPLES OF THE FAR EAST: CHINA AND JAPAN (Folklore 138) (3). Study of the traditional culture patterns of China and Japan and of the extensive changes which have been taking place in these societies. (Not offered in 1965-1966.) *Fall.*

149 SOCIAL ORGANIZATION IN INDIA (Sociology 149) (3). (See Sociology 149 for description.) *Fall.* Namboodiri.

150 ARCHAEOLOGY OF NORTH AMERICA (3). A study of the growth of American Indian cultures north of the Rio Grande as interpreted by archaeological research. Special emphasis on the prehistory of North Carolina and the eastern woodlands. *Fall.* Coe.

167 URBAN ANTHROPOLOGY (3). Prerequisite, permission of the instructor. Changing and stable patterns in the social organization, ecology, and value systems of cities in the technologically emergent nations of the world. *Spring.* Gulick.

170 MEDICINE AND ANTHROPOLOGY (3). Prerequisite, permission of the instructor. Treatment of disease in various exotic and western cultures is considered, as well as problems related to innovation. Surveys of mental health are used to point up relations between culture and health. *Spring.* Leighton.

185 INTRODUCTION TO FOLKLORE (Folklore 185) (Comparative Literature 185) (English 148) (3). (See Folklore 185 for description.) (Not offered in 1966-1967.)

Courses for Graduates

200 ADVANCED SURVEY OF ANTHROPOLOGY (3). An intensive survey of all branches of anthropology as a scientific discipline, with attention to current findings and orientations. (Not offered in 1966-1967.) Staff.

213 PHONETICS AND PHONEMICS (Linguistics 213) (3). (See Linguistics 213 for description.) *Spring.* Tsiapera.

214 GRAMMATICAL ANALYSIS: MORPHOLOGY (Linguistics 214) (3). (See Linguistics 214 for description.) *Fall.* Burke.

215 GRAMMATICAL ANALYSIS: SYNTAX (Linguistics 215) (3). (See Linguistics 215 for description.) *Spring.* Burke.

220 THE ANTHROPOLOGICAL VIEW (3). Examination of selected cultural anthropologists and their works to discover theoretical and methodological perspectives from which they view not only culture but biological and philosophical aspects of man. (1967-1968 and alternate years.) *Fall.* Honigmann.

221 FIELD METHODS IN CULTURAL ANTHROPOLOGY (3). Designed for students who will soon undertake ethnological field research. Practical exercises and discussion cover topics like observation, note-taking, pattern generalization, and photography; special attention is devoted to the nature of ethnography and to how anthropologists determine the truth-value of ethnographic propositions. *Spring.* Cloak.

222 RESEARCH METHODS IN ARCHAEOLOGY (3). A study of the basic principles underlying archaeological study of prehistoric sites. Field trips and laboratory work. *Spring.* Coe.

230 CULTURE CONTACTS AND ACCULTURATION (Sociology 230) (Folklore 230) (3). An analysis of situations involving contact of peoples of different cultural traditions, with emphasis on the development of theory and method in the study of acculturation. *Spring.* Johnson.

234 CULTURES OF NORTHERN NORTH AMERICA (Folklore 234) (3). Covers Arctic and sub-Arctic Eskimo and Indian cultures, both aboriginal and modern; discussion of representative ethnographies; possibilities of field research. *Fall.* Honigmann.

250 SEMINAR IN MEDICAL ANTHROPOLOGY (3). Specially designed for, but not restricted to, students who are trainees in medical anthropology, the course examines medicine as part of culture; medicine and social structure viewed cross-culturally; medicine in the perspective of anthropological and other social science theory; and research methods. A special purpose of the seminar is to help students plan their own research projects, theses, and dissertations. *Fall.* Goethals.

251 SEMINAR IN CULTURE AND PERSONAL ADAPTATION (3). Prerequisite, Anthropology 121 or equivalent. Reading and discussion take up the cross-cultural appraisal of stress and psychiatric disorder; the cultural patterning of psychiatric symptoms; culture change in relation to stress and illness; psychotherapy in various cultures, and magic and religion viewed as socially patterned modes of adjustment to stress and strain. *Spring.* Crane.

293 FIELD METHODS IN PHONOLOGICAL ANALYSIS (Linguistics 293) (3). (See Linguistics 293 for description.) *Fall.* Burke.

294 FIELD METHODS IN GRAMMATICAL ANALYSIS (Linguistics 294) (3). (See Linguistics 294 for description.) *Spring.* Burke.

301 READING AND RESEARCH (3). Registration with permission of the
302 professor. *Fall and spring.* Staff.

315 READING AND RESEARCH IN METHODOLOGY (3). Registration with
316 permission of the professor. *Fall and spring.* Staff.

321 FIELD RESEARCH (3). Registration with permission of the professor.
322 *Fall and spring.* Staff.

327 SEMINAR IN SELECTED TOPICS: ANTHROPOLOGICAL LINGUISTICS (3). Registration with permission of the professor. (In 1966-1967.) *Spring.* Sanches.

328 SEMINAR IN SELECTED TOPICS: CULTURAL ECOLOGY (3). Registration with permission of the professor. (In 1966-1967.) *Spring.* Bowers.

393 MASTER'S THESIS (3). Individual research in a selected field under the direction of a member of the Department. *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION (3). Individual research in a selected field under the direction of a member of the Department. *Fall and spring.* Staff.

400 GENERAL REGISTRATION (0).

ARABIC

(See Romance Languages)

ARCHAEOLOGY

(See Anthropology and Classics)

DEPARTMENT OF ART

Professors: J. C. SLOANE,[1] *Chairman,* J. V. ALLCOTT, KENNETH NESS, PHILIPP FEHL,[2] HAROLD W. DICKSON[3]

Associate Professors: GEORGE KACHERGIS,[4] ROBERT HOWARD,[5] FRANCES HUEMER, JOHN M. SCHNORRENBERG, JOHN W. DIXON, JR.,[6] GEORGE BIRELINE[7]

Assistant Professors: ROBERT BARNARD, RICHARD KINNAIRD

Instructors: L. V. HUGGINS, JR., NANCY T. DE GRUMMOND

Part-time Instructors: JUDITH K. SMITH, CHARLES S. DAVIS

Acting Curator and Librarian: GAY HERTZMAN

Registrar: WANDA CALHOON

Museum Assistant: CECIL GAYLE

Keeper of Slides and Photographs: ELISABETH SPEIGHT

Graduate Assistants: CHARLOTTE V. BROWN, THOMAS BULLARD, DONALD EVANS, SARA C. JENKINS, LENORE KRANTZ, WILLIAM MCCULLOCH, CHARLES R. MACK, HAROLD R. MANDELL, THOMAS P. MATTHEWS, JAMES E. NEWTON, HOLLY OLWYN, MARJORIE SCHREIBER

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1. Alumni Distinguished Professor of Art.
2. Absent on leave, 1966-1967.
3. Visiting Professor of Art, spring semester 1967.
4. Absent on leave, spring semester 1967.
5. Absent on leave, fall semester 1966.
6. On joint appointment with the Department of Religion.
7. Visiting Associate Professor of Art, 1966-1967.

Courses in art are for art majors and for general students in the University. Programs for art majors are planned to give a basic training in art history or creative art within the liberal arts program and also to lay the foundations for graduate work. Courses for general students provide an opportunity to study art for its value in the broad field of humanistic studies. The William Hayes Ackland Memorial Art Center provides exhibition galleries, departmental library, offices, study areas, and classrooms. Other exhibitions and collections are displayed in the Morehead Building.

The Department of Art offers three major programs, one in Art History and two in Creative Art, as well as elective courses open to students from all departments in the University.

Program in Art History

Art 44 and 46 are prerequisites to a major in art history and should be taken as early as possible from among the General College electives. Transfer students must present equivalent credit or make up the deficiency.

In addition, majors in art history will take at least four courses from the sequence Art 30, 35, 36, 37, 38, and two of these must be completed prior to the junior year. The balance may be taken as required during upperclass years. No more than six units of art history credit is normally accepted by transfer in partial fulfillment of this requirement.

The major program requires six to eight courses beyond the four art courses required in the General College (i.e., Art 44, 46, and two art history courses). Majors in art history are required to offer at least one allied course from the courses in ancient art offered by the Department of Classics.

Program in Studio Leading to A.B. Degree

Art 44, 46, 30 and one course from the sequence Art 35, 36, 37, 38, are prerequisites to this major and should be taken as early as possible from among the General College electives. Transfer students must present equivalent credit or make up the deficiency.

A major in creative art leading to the A.B. degree requires nine courses beyond the General College level including two courses in art history, one of which must be either Art 153 or 154. Students interested in art education should pay particular attention to the relevant paragraphs following, and consult with the School of Education.

Program in Studio Leading to the B.F.A. Degree

This course of study is designed as a pre-professional preparation for painters and sculptors. It occupies approximately one-half of all courses taken during the four years required for the degree. Unusual

capacity for work in creative art is expected, and each student's program is reviewed at the end of the sophomore year. If, at this time, any student's progress is deemed insufficient, a change of major will be required.

Courses taken in the General College under this program include English 1, 2, 21; foreign language 3, 4, 21 (or 1, 2, 3, 4); Modern Civilization 1, 2; two natural sciences (one biological, one physical); two courses in freshman mathematics, or in Greek or Latin or logic, or one course in mathematics and one in logic. Students must complete the following courses by the end of their sophomore year: (studio) Art 44, 46, 49, 66, 63 or 86; (Art History) 30, 38 and one from the sequence 35, 36, 37. Students will take one studio and one art history course each semester in an order approved by the Department, but in the second semester of the sophomore year, two studio courses will be taken.

Nine to eleven additional studio courses as well as one advanced course in the History of Modern Art will be taken in the College of Arts and Sciences along with at least four allied and four non-divisional courses. Students in the program may elect to emphasize either sculpture or painting and graphic arts during their last two years. The Department reserves the right to make minor adjustments in regard to major and allied courses according to the needs of individual students.

Program in Art Education

A student who wishes to prepare himself for teaching art at the secondary school level may do so in the following ways:

1. The student may be admitted to the School of Education and choose art as either his first or second teaching field. He will be required to take education courses Ed. 41, 71, 72b, 99, 77, and 80 and meet the graduation requirements detailed under School of Education in this category. He will be required to take a minimum of thirty-nine semester hours in art, from: Art 49, 61, 84, 44, 63, 82, 46, 30, 153, one other Art History course, and any three other art courses, one of which shall be the one hundred level.

   NOTE: The education courses Ed. 72b, 99, 77, and 80, which include practice teaching, are taken by art students in the spring semester. This factor must be considered in planning the student's program or courses.

2. The student may follow a program leading to the B.A. degree or the B.F.A. degree, and then enter (a) the School of Education as a special student to complete professional requirements for certification, or (b) the Fifth-Year Program in Teacher Education. This latter program is fifteen months in duration and runs from June through August of the following year. Successful stu-

dents are awarded the Master of Teaching degree and are eligible for a teacher's certificate in practically every state in the nation.

Certification requirements for teaching art in North Carolina are covered by each of these programs. Students planning to teach art in public schools outside of North Carolina should consult their advisers in the School of Education with regard to specific requirements.

All students who intend to take up teaching should consult with the Art Education adviser in the Department of Art as early as possible.

Students following a program of study leading to a major in elementary education are required to take six semester hours' work in Art. In order to meet state requirements for certification, Art 45 should be one of the courses. It is recommended that Art 44, 49, or 30 be the other, and that it should be taken before Art 45.

ART HISTORY

Courses in the General College

The courses listed below are intended as introductions to both the systematic and historical study of the history of art. Ordinarily, Art 30 is regarded as prerequisite to the other historical courses in the General College, and to all advanced courses. Students may, however, take any of these introductory courses as electives either in the General College or the College of Arts and Sciences. Students wishing to take courses numbered 100 must have had Art 30 and at least one of the period surveys. Failing this, the permission of the instructor is required.

30 INTRODUCTION TO THE STUDY OF ART HISTORY (3). *Fall and spring.* Staff.

35 ANCIENT AND BYZANTINE ART (3). *Fall.* Huemer.

36 MEDIEVAL AND EARLY RENAISSANCE ART (3). *Spring.* Schnorrenberg.

37 RENAISSANCE AND BAROQUE ART (3). *Fall.* de Grummond.

38 SURVEY OF MODERN ART (3). *Spring.* Allcott.

39 INTRODUCTION TO RELIGION AND ART (Religion 39) (3). (See Religion 39 for description.) Dixon.

90 HONORS IN ART (3). Staff.

For courses in ancient art consult Department of Art for listings.

Courses for Graduates and Advanced Undergraduates

151 EARLY ITALIAN PAINTING (3). *Spring.* de Grummond.

152 LATER ITALIAN PAINTING (3). *Spring,* Huemer.

153 NINETEENTH-CENTURY PAINTING (3). *Fall.* de Grummond.

154 TWENTIETH-CENTURY PAINTING (3). *Spring.* Allcott.

155 RELIGIOUS ART IN THE WEST (3). *Spring.* Dixon.

159 HISTORY AND THEORY OF ART CRITICISM (3). *Fall.* Dixon.

171 AMERICAN ART (3). *Fall.* Allcott.

172 MODERN ARCHITECTURE (3). *Fall.* Allcott.

173 FOURTEENTH- AND FIFTEENTH-CENTURY PAINTING IN NORTHERN EUROPE (3). *Fall.* Schnorrenberg.

174 NORTHERN BAROQUE ART (3). *Spring.* Huemer.

175 ITALIAN BAROQUE ART (3). *Fall.* Huemer.

177 MEDIEVAL ART (3). *Fall.* Schnorrenberg.

178 EUROPEAN ENGRAVING AND WOODCUT (3). Fehl.

180 RENAISSANCE AND MODERN SCULPTURE (3). *Spring.* de Grummond.

181 MEDIEVAL ARCHITECTURE (3). *Spring.* Schnorrenberg.

182 RENAISSANCE ARCHITECTURE (3). *Spring.* Dickson.

Courses for Graduates

In the seminars listed, the topics for study change from year to year depending on the professor conducting the course. Architecture, sculpture, painting, or a combination of these, may be the subject. Consult the department for details on specific courses in any given semester.

230 PROBLEMS IN ART HISTORY (3). *Fall and spring.* Staff.

250abc SEMINAR IN MEDIEVAL ART (3 each.) *Fall.* Schnorrenberg.

251abc SEMINAR IN RENAISSANCE ART (3 each). *Fall and spring.* Fehl.

252abc SEMINAR IN BAROQUE ART (3 each). *Spring.* Huemer.

253abc SEMINAR IN MODERN ART (3 each). *Fall,* Allcott; *spring,* Sloane, Dickson.

301 RESEARCH (3). Staff.

393 MASTER'S THESIS (3). Staff.

394 DOCTORAL DISSERTATION (3). *Fall and spring.* Staff.

400 GENERAL REGISTRATION (0).

CREATIVE ART

Courses in the General College

The first two courses listed below are recommended for the general student to give him an approach to art through work in the studio. Each course may be taken separately. All courses listed in this section are open as electives to juniors and seniors, and may be offered for credit in the College of Arts and Sciences. *Art 44 and 46 or their equivalent are prerequisites to more advanced work in painting and sculpture.* Courses numbered 60 and above may, by permission of the department, be taken more than once for credit.

The Department reserves the privilege of keeping examples of the work of any student.

44 BASIC DRAWING AND COMPOSITION (3). Departmental permission required. An introduction to the structural elements of a picture. *Six studio hours a week, fall and spring.* Staff.

45 ARTS AND CRAFTS (3). Departmental permission required. Opportunity for creative expression in several art media, practical work in color and form, introductory exercises in simple crafts. Consideration of philosophies of art education and the art curriculum of the elementary school. *Six studio hours a week, fall and spring.* Barnard, Kinnaird, Huggins.

46 BASIC SCULPTURE (3). Departmental permission required. An introduction to three-dimensional design in such materials as clay, plaster, wood, and wire. *Six studio hours a week, fall and spring.* Laboratory fee, $16.00 Howard, Huggins.

49 DESIGN (3). Departmental permission required. An introduction to studio methods in design with color, form and movement. *Six studio hours a week, fall and spring.* Ness, Bireline.

Courses in the College of Arts and Sciences

61 ADVERTISING ART (3). Figurative and abstract illustration and design of posters, book jackets, and other graphic presentation. Fundamentals of lettering and layout. Open to students in advertising, journalism, and other fields. *Nine studio hours a week, fall.* Ness.

63 BEGINNING PAINTING (3). Prerequisite, Art 44. Representational and abstract composition. The pictorial unit from linear structure to three-dimensional form. *Nine studio hours a week, fall and spring.* Kinnaird, Bireline.

66 LIFE DRAWING (3). Prerequisite, Art 44 or permission of the instructor. Work from the living model in various media. Consideration of anatomy and composition. May be taken more than once for credit. *Six studio hours a week, fall and spring.* Laboratory fee, $12.00. Ness, Kinnaird.

82 INTERMEDIATE PAINTING (3). Prerequisite, Art 63 or equivalent. Still life, figure, landscape, and abstract painting in various media. *Nine studio hours a week, fall and spring.* Ness, Bireline.

84 CERAMIC DESIGN (3). Approaches to form design; the function of decorative processes such as color slips, sgraffito and glazing; firing. *Nine studio hours a week, spring.* Laboratory fee, $16.00. Howard.

86 INTERMEDIATE SCULPTURE (3). Prerequisite, Art 46 or equivalent. Casting of plaster, cement, etc.; carving in wood, stone, etc. Emphasis on potential of solids in three-dimensional design. *Nine studio hours a week, fall and spring.* Laboratory fee, $16.00. Howard, Huggins.

Courses in Art Education

See Education 77 METHODS AND MATERIALS IN TEACHING ART (page 183) and Education 80, STUDENT TEACHING, ART (page 183).

Courses for Graduates and Advanced Undergraduates

105 ADVANCED PAINTING (3). Prerequisites, Art 63, 82, or permission of the instructor. Various media; preparation of panels; consideration of line, tone and form. *Nine studio hours a week, fall and spring.* Kachergis, Ness.

108 ILLUSTRATION AND PICTORIAL COMPOSITION (3). Prerequisite, permission of the instructor. Special projects based on student's performance and capacity in other advanced courses. *Nine studio hours a week, by arrangement, fall and spring.* Staff.

112 ADVANCED SCULPTURE (3). Prerequisite, Art 86. Construction in various media, advanced three-dimensional design. *Nine studio hours a week, fall and spring.* Laboratory fee, $20.00. Howard, Huggins.

120 GRAPHIC ART (3). Prerequisite, permission of the instructor. Technique and design in various media. *Nine studio hours a week, fall.* Kachergis.

Courses for Graduates

240 GRADUATE PAINTING (3 or 6). This course may be repeated for credit. *Nine or eighteen studio hours a week, fall and spring.* Kachergis, Ness.

241 GRADUATE SCULPTURE (3 or 6). This course may be repeated for credit. *Nine or eighteen studio hours a week, fall and spring.* Laboratory fee, $30.00. Howard.

393 MASTER'S THESIS (3). Staff.

400 GENERAL REGISTRATION (0).

ASTRONOMY

(See Physics)

DEPARTMENT OF BACTERIOLOGY AND IMMUNOLOGY[1]

Professors: G. P. MANIRE, *Chairman,* W. J. CROMARTIE, D. G. SHARP, D. A. MACPHERSON, *Professor Emeritus*

Associate Professors: W. R. STRAUGHN, JR., J. H. SCHWAB, J. K. SPITZNAGEL, H. GOODER, E. L. FINCHER

Assistant Professors: J. S. PAGANO, R. TWAROG, G. HAUGHTON, K. S. KIM, A. TAMURA

Assistant Professor in Medical Technology: L. M. WARD

Instructor in Dental Bacteriology: J. J. CRAWFORD

Instructors in Clinical Bacteriology: J. J. FISCHER, F. D. HAMRICK

Instructors in Medical Technology (Bacteriology): B. F. MAXWELL, C. D. MERRITT

Research Associates: K. S. ANDERLE, J. B. TAYLOR, H. I. ZEYA

Postdoctoral Trainees: G. W. FERNALD, J. H. MCCUTCHAN, W. C. SUGG, JR., R. P. LIPPMAN

Research Trainees: M. ABSHER, L. R. ALBRECHT, A. W. BAXTER, D. J. DENTAN, C. C. FIELD, L. V. HOWARD, J. M. JONES, J. W. LAWSON, P. M. MCGEHEE, P. M. MCGUIRE, D. R. NASH, M. G. PENNINGTON, L. A. WILSON

Graduate Assistants: C. L. DAVIS, A. H. MALAKIAN, M. A. RAUCH, P. B. WYRICK, C. H. YANG

1. This is also a department in the School of Medicine which operates on the quarter system. Therefore, some of its courses are taught by the quarter. The credit in parentheses after the course title is in semester hours.

Requirements for Bachelor of Science in Bacteriology

For freshman and sophomore years see "General College," Part III.

JUNIOR YEAR

Physics 24-25 or 26-27
Bacteriology 51
Chemistry 61, 64
[2]Electives, four courses

SENIOR YEAR

Bacteriology 132
Bacteriology 161
[2]Electives, three courses
Two of the following, of which one must be Bacteriology:
Bacteriology 115, 162
Chemistry 83
Mathematics 31, 32
Public Health 134

Courses for Undergraduates

51 ELEMENTARY BACTERIOLOGY (4). Required for pharmacy students. Prerequisites, Chemistry 11-12 or 11-21. Covers the general principles and techniques of bacteriology and the relations of these organisms to sanitation, agriculture, medicine, and industry. *Two lecture and four laboratory hours a week, spring semester.* Gooder, Haughton.

55 ELEMENTARY PATHOGENIC MICROBIOLOGY (4). Required for nursing students; other students by permission of the Department. Prerequisites, Chemistry 11-12, or 11-21. A course covering the fundamental principles of microbiology; the relation of microorganisms to disease; modes of infection; and the etiologic agents of the important infectious diseases. *Three lecture and two laboratory hours a week, fall semester.* Twarog.

Courses for Graduates and Advanced Undergraduates

101ab PATHOGENIC BACTERIOLOGY (8⅔). Prerequisites, Bacteriology 51 or equivalent and permission of the Department. Required for medical students. A study of the biology of infectious diseases of man including the principles of immunology, and a detailed consideration of the important bacteria, fungi, rickettsiae, protozoa, and viruses producing human disease. *Three lecture, one conference, and six laboratory hours a week, fall quarter; three lecture and six laboratory hours a week, winter quarter.* Both quarters must be taken consecutively to receive credit. Staff.

115 SPECIAL TOPICS IN BACTERIOLOGY OR IMMUNOLOGY (3 or more each semester). Prerequisites, Bacteriology 101ab or 132 and permission of the Department. A course designed to introduce the student to research methods. Minor investigative problems are conducted by the student with advice and guidance of the staff. *Hours and credit to be arranged, any term.* May be repeated for credit two or more semesters. Staff.

132 PATHOGENIC BACTERIOLOGY (7). Prerequisites, Chemistry 11-12 or 11-21; and two courses selected from botany, physics or zoology. Required for dental students fall quarter. A course covering general bacteriological and serological techniques; common pathogenic microorganisms, with particular reference to the oral cavity; and the principles of sterilization, dis-

2. Four of the seven elective courses must be outside the Division of Natural Sciences.

infection, chemotherapeusis, and immunity. *Five lecture and six laboratory hours a week, fall quarter; remainder of semester three lecture and six laboratory hours a week.* Staff.

151 GENERAL BACTERIOLOGY (4). Prerequisites, Chemistry 11-12 or 11-21 and Botany 11 or Zoology 11. Open only to majors in departments other than bacteriology. A general science course introducing the student to the entire scope of bacteriology. Representative microorganisms are studied and fundamental principles are stressed. An individual laboratory project or literary review is required. *Two lecture and four laboratory hours a week, spring semester.* Gooder, Haughton.

155 GENETIC SYSTEMS (3). No prerequisites. An interdepartmental course in genetics with the lectures arranged to develop the principles of inheritance while also acquainting students with the research potential of various organisms commonly used in genetic investigations. *Three lecture hours a week, fall semester.* Gooder and other members of the Genetics Curriculum.

161 ADVANCED MICROBIOLOGY AND IMMUNOLOGY (7). Prerequisites, Biochemistry 100 or 105; Bacteriology 101ab or 132; or permission of the Department. Current concepts of the chemistry, structure, physiology and genetics of bacteria and viruses are presented, as they relate to growth, metabolism, variation and action of antimicrobial agents. Instructions in techniques and instrumentation relevant to advanced microbiological studies are given. *Four lecture and six laboratory hours a week, spring semester.* Staff.

162 ADVANCED MICROBIOLOGY AND IMMUNOLOGY (7). Prerequisites, Biochemistry 100 or 105; Bacteriology 101ab or 132, or permission of the Department. Presents the interrelationships of microbial agents with host cells including the inflammatory and immune responses at the molecular and cellular levels, and considers theories in immunochemistry, immunopathology, and immunogenetics along with instruction in techniques and instrumentation relevant to advanced immunological studies. *Four lecture and six laboratory hours per week, fall.* Staff.

Courses for Graduates

201 SEMINAR IN MICROBIOLOGY (1 each). Discussion of selected topics in
202 microbiology. *One lecture hour a week, fall and spring.* Staff.

301 RESEARCH (5 or more each semester). Prerequisite, permission of the Department. Opportunity is offered properly prepared students to undertake research in clinical bacteriology, immunology, virology, microbial genetics, or bacterial physiology. *Hours and credit to be arranged, any term.* This course may be repeated for credit two or more semesters. Staff.

393 MASTER'S THESIS (3).

394 DOCTORAL DISSERTATION (3).

400 GENERAL REGISTRATION (0).

DEPARTMENT OF BIOCHEMISTRY

Professors: J. L. IRVIN, *Chairman,* C. E. ANDERSON, J. C. ANDREWS,[1] L. G. WELT, J. E. WILSON

Associate Professors: B. BAGGETT, R. H. WAGNER, R. PENNIALL, E. GLASSMAN, J. R. WHITE, A. R. KRALL, M. E. JONES, J. HERMANS, G. K. SUMMER, M. K. BERKUT

Assistant Professors: F. E. BELL, D. J. HOLBROOK, H. NINO, E. MAJCHROWICZ, E. L. HOGAN, H. J. FALLON

Research Associates: E. J. DUKE, G. ACAMPORA, D. R. FERRO, M. NAKAMURA, E. O. OSWALD, A. SCHNEIDER, J. W. ZEMP

Graduate Assistants: E. M. WALKER, K. K. KUMAROO, W. F. R. SMITH

Predoctoral Fellows: H. L. WHITE, H. BERGER, H. M. JERNIGAN, M. S. COLEMAN, C. N. CALDWELL, L. M. MARGOLIN, N. R. DAVIDIAN, K. H. GOH

Research Assistants: C. B. CHAE, H. CHUANG, W. R. HUBBARD, R. A. LAHTI, S. F. OWENS, H. G. OEY, J. A. MCQUERE, J. L. MEEK, H. M. MOON, M. A. QUBEIN, R. B. JONES, M. T. HUANG, G. C. MARLOWE, B. WU, M. D. WATERS, C. F. LEFLER, B. R. SWITZER, J. M. HAPPY, M. V. AYLOTT, J. L. DAVIS, D. J. EDWARDS, D. A. GABRIEL, S. D. HARDER

Research Trainees: J. C. COLLINS, H. W. STROBEL, W. G. WOOD, L. J. HEERE, D. E. LOHR, L. B. ADAIR, W. T. SHOAF, R. K. WILLIAMS, H. B. CROOM, J. M. CAFFERY, A. S. HENDERSON

The field of biochemistry applies and extends the concepts of chemistry and physics to the investigation of biological problems. The Department of Biochemistry is located in the School of Medicine, which lies in close proximity to the buildings that house the Biological and Physical Sciences. As part of the Graduate School, it offers training leading to the Ph.D. Degree in Biochemistry. There are about 45 graduate students in the Department. Strong emphasis is placed on training students to meet future challenges in the study of the biochemistry of living systems and molecular biology.

Extensive research programs are being conducted in molecular biology, genetics, proteins, enzymes, histones, nucleic acids, membrane transport, lipids, steroids, carbohydrates, metabolic diseases, antibiotics, neurochemistry, blood coagulation, calcification of teeth, clinical biochemistry, and cancer research.

Research Facilities

The Department has excellent research facilities; the following major items of equipment are available for the research projects of graduate students: 1 Spinco Model-E analytical ultracentrifuge; 3 Spinco Model-L preparative ultracentrifuges; 1 Spinco Model-L2 preparative ultracentrifuge; 3 Servall RC-2 refrigerated centrifuges; 2 International PR-2 refrigerated centrifuges; 1 Sharples supercentrifuge; 1 Beckman DK-1 recording spectrophotometer; 1 Beckman DB recording spectrophotometer; 3 Beckman DU spectrophotometers; 1 Zeiss spectrophotometer; 1 Amino-Bowman spectrofluorometer; 1 Cary recording spectrophotometer; 1 Cary recording spectropolarimeter; 1

1. Professor, Emeritus.

Spinco Model-H electrophoresis apparatus; 1 Perkin-Elmer recording infared spectrophotometer; 1 Beckman recording infared spectrophotometer; 1 Nuclear-Chicago automatic scaler and gas flow radioactivity counter; 2 Nuclear-Chicago liquid scintillation spectrometers; 3 Packard tri-carb liquid scintillation radioactivity counters; 1 Siemens crystalloflex-II X-ray diffraction apparatus; 1 Warbug apparatus; 1 Schmidt and Haensch polarimeter; 2 Photovolt Model-540 fluorometers; 1 Bausch and Lomb dipping refractometer; 1 Wild phase-contrast microscope; 1 Raytheon ultrasonic tissue disintegrator; 1 Spinco automatic amino acid analyzer; 1 Gibson recording oxygen electrode; 1 JKM-Stubbings Preparative Electrophoresis; colorimeters; automatic fraction collectors; chromatocabs; equipment for thin layer chromatography; paper chromatography and electrophoresis; automatic microbalances; equipment for automatically scanning and recording radioactivity on paper chromatograms; etc.

Fellowships and Research Assistantships

Predoctoral Fellowships and Research Assistantships: These fellowships are designed to support graduate students working toward the Ph.D. degree. Stipend: $2,400 to $3,000 for twelve months, with full tuition allowances, and $500 per year for dependents. After the second year, graduate students are eligible to receive travel awards to attend national scientific meetings.

Postdoctoral Fellowships and Research Associateships: A number of postdoctoral fellowships are available to persons who have acquired the Ph.D. degree in biochemistry, genetics, chemistry, biophysics, or biology. Persons who have received the M.D., the D.D.S., or the D.V.M. degree are also eligible for these fellowships. Stipends will vary depending upon experience and the number of dependents, but will be in the range of $5,000 to $8,500 for twelve months.

Requirements for Admission

The Department of Biochemistry will entertain applications from students who have majored or minored in one of the following disciplines: chemistry, genetics, biology (zoology or botany), physics, mathematics, bacteriology. All undergraduates who intend to have a career in biochemistry are urged to take differential and integral calculus, organic chemistry, physical chemistry and genetics, although these are not absolute requirements for admission. Students with deficiencies in training and in background will be required to make these up in the first year of study. All applicants will be required to score well on the Graduate Record Examination prior to acceptance. Applicants are urged to apply for admission as early as possible although applications will be considered throughout the year.

Requirements for the Ph.D. Degree

Candidates for the Ph.D. Degree in Biochemistry must be well trained in the fundamentals of chemistry, physics, biology, and mathematics, in addition to biochemistry. Students may take minors in a variety of scientific disciplines, such as chemistry, genetics, bacteriology, physiology, mathematics, physics, zoology, or botany. The minor may be divided between two of the above departments with a minimum of ten semester hours in each. A reading knowledge of both German and French is required. In special cases the substitution of some other language may be approved.

Departmental requirements will vary to suit the needs of individual students. However, all candidates for the Ph.D. Degree in Biochemistry are required to take Biochemistry 205, 206, and at least four Seminar Courses. The most important requirement is a dissertation on original research independently carried out by the candidate.

Courses for Undergraduates

7 INTRODUCTION TO BIOCHEMISTRY (4). Open only to students of Dental Hygiene. Breakage deposit required. *Three lecture hours a week, fall. Two 2-hour laboratory periods during the second half of the fall semester.* Berkut.

8 INTRODUCTION TO BIOCHEMISTRY (4). Open only to students of Dental Hygiene. Breakage deposit required. *Three lecture hours and one 2-hour laboratory period a week, spring.* Berkut.

21 INTRODUCTION TO NUTRITION (2). Prerequisites, Biochemistry 7 and 8. Open only to students of Dental Hygiene. *Two lecture hours a week, fall.* Berkut.

Courses for Graduates and Advanced Undergraduates

100 BIOCHEMISTRY FOR STUDENTS OF BIOLOGY AND CHEMISTRY (4). Prerequisites, one biology course recommended. Chemistry 11-21, 61 (or 61S), 62 (or 62S or 64), or equivalents, required. Chemistry 43 is recommended but not required. Lectures and laboratory on chemistry and metabolism of compounds of biological importance. Introduction to enzyme reactions, energy metabolism, cellular functions, biochemical genetics and regulatory mechanisms. *Three lecture and three laboratory hours a week, spring semester, every year.* Jones and staff.

101 GENERAL BIOCHEMISTRY[2] (6). Prerequisites, Chemistry 43, 61, and 64, or equivalents. A general survey of biochemistry designed for students who are not majoring or minoring in Biochemistry, and for students of Dentistry. *Three lecture and six laboratory hours a week, fall quarter, every year.* Staff.

103a BIOCHEMISTRY FOR MEDICAL STUDENTS[2] (6). Prerequisite, Chemistry 43, 61, 62 (or 64), or equivalents. A course for students of Medicine. The course comprises the chemistry and intermediary metabolism of carbohydrates, lipids, proteins, vitamins, and nucleic acids as well as lectures

2. These courses are offered on a quarter basis for medical and dental students and on a semester basis for graduate students. The credit in parentheses after the course title is in semester hours.

on enzymes, genetics, and cell structure. *Five lecture and six laboratory hours a week, fall quarter, every year.* Staff.

103b BIOCHEMISTRY FOR MEDICAL STUDENTS[3] (6). Prerequisite, Biochemistry 103a. A continuation of Biochemistry 103a for students of Medicine. The following topics are presented: the composition and functions of blood, physico-chemical aspects of respiration, the regulation of acid-base balance, fluid and electrolyte equilibria, neurochemistry, and hormones. *Four lecture and six laboratory hours a week, winter quarter, every year.* Staff.

105 INTRODUCTION TO BIOCHEMISTRY AND MOLECULAR BIOLOGY (6). Prerequisites, Chemistry 43, 61, 62 (or 64) or equivalents. An introductory course in biochemistry with emphasis upon metabolism of carbohydrates, lipids, amino acids, proteins, and nucleic acids; enzyme mechanisms; biochemical genetics; bioenergetics; and photosynthesis. *Six lecture hours a week, fall semester, every year.* Staff.

155 GENETIC SYSTEMS (3). No prerequisites. An introductory course in Genetics designed to acquaint the student with the various modes of inheritance in different organisms. This course will consider bacteria, phage, fungi, Drosophila, mice, and humans. *Three lecture hours a week, fall.* Glassman and other members of the Genetics Curriculum.

Courses for Graduates

204 BIOCHEMICAL PREPARATIONS (5). Prerequisites, Biochemistry 103 or 105, or equivalents. A laboratory course in the preparation of compounds of biological interest and the analytical methods for testing their purity. *Ten laboratory hours a week, either semester, every year.* Staff.

205 ADVANCED BIOCHEMISTRY (6). Corequisite or prerequisite, Biochemistry 103a or 105. A lecture course designed to supplement the lectures of Biochemistry 103a with more advanced and detailed material mainly on intermediary metabolism. *Six lecture hours a week, fall, every year.* Staff.

206 ADVANCED BIOCHEMISTRY (3). Prerequisites, Mathematics 31; Chemistry 181, 182 or equivalents, Biochemistry 205. A continuation of Biochemistry 205. Emphasis on this part of the course will be on enzymes, physical biochemistry, genetics, and molecular biology. *Three lecture hours a week, spring, every year.* Staff.

208 ADVANCED BIOCHEMISTRY LABORATORY (3). Corequisite, Biochemistry 206. A laboratory course designed to acquaint graduate students with the equipment and methods used in modern biochemical research. *Six laboratory hours a week, spring quarter, every year.* Staff.

220 BIOCHEMISTRY OF GENETICS (5). Prerequisites, Biochemistry 103, 105, or permission of the professor. Genetics 155 is recommended. Various aspects of modern genetic theory and molecular biology will be systematically covered. This includes viral and bacterial genetics, the function of DNA and RNA in the cell, fine structure genetics, mutation, recombination, some problems of differentiation and development, and other topics of current interest. (1965-1966 and alternate years.) *One 3-hour lecture a week, spring.* Glassman.

The following Seminar Courses are designed for students who are majoring or minoring in Biochemistry and who wish to further their knowledge in particular areas. Biochemistry 103a or 105 is a prerequi-

3. These courses are offered on a quarter basis for medical and dental students and on a semester basis for graduate students. The credit in parentheses after the course title is in semester hours.

site. Unless specified otherwise, these courses will be given in alternate years by interested staff members. Candidates for the Ph.D. Degree in Biochemistry are required to take at least four different seminars. Students may register for only one seminar a semester but may audit any number. These seminars may not be repeated for credit.

230 SEMINAR IN BIOLOGICAL MACROMOLECULES. I. PROTEINS (3). *Three hours a week, fall, every year.* Staff.

231 SEMINAR IN BIOLOGICAL MACROMOLECULES. II. NUCLEIC ACIDS (3). *Three hours a week, spring, every year.* Staff.

232 SEMINAR IN GENETICS (3). (1966-1967 and alternate years.) *Three hours a week, spring.* Glassman.

233 SEMINAR IN BIOCHEMICAL REGULATION (3). (1966-1967 and alternate years.) *Three hours a week, fall.* Staff.

234 SEMINAR IN MOLECULAR BIOLOGY (3). (1967-1968 and alternate years.) *Three hours a week, spring.* Glassman, White.

235 SEMINAR IN NEUROCHEMISTRY (3). (1967-1968 and alternate years.) *Three hours a week, fall.* Staff.

236 SEMINAR IN ENZYME MECHANISMS (3). (1966-1967 and alternate years.) *Three hours a week, spring.* Staff.

237 SEMINAR IN ENERGY METABOLISM (3). (1967-1968 and alternate years.) *Three hours a week, fall.* Staff.

238 SEMINAR IN BIOLOGICAL TRANSPORT (3). (1967-1968 and alternate years.) *Three hours a week, spring.* Staff.

239 SEMINAR IN ANTIBIOTICS AND ANTIMETABOLITES (3). (1966-1967 and alternate years.) *Three hours a week, fall.* Staff.

240 SEMINAR IN LIPID METABOLISM (3). (1966-1967 and alternate years.) *Three hours a week, spring.* Staff.

255 DISCUSSIONS IN MOLECULAR BIOLOGY (3). Prerequisites, Genetics 220 and permission of the professor. Assigned readings and discussions of the current literature in molecular biology with emphasis on genetics, differentiation and cell regulation. May be repeated for credit. Assigned readings and reports. *One 3-hour meeting a week, when requested.* Glassman.

300 RESEARCH IN BIOCHEMISTRY OF GENETICS (4 or more semester hours). Prerequisites, Biochemistry 220 and the permission of the instructor. *Equivalent of 8 or more hours a week throughout both semesters, when requested.* Glassman.

301 RESEARCH IN BIOCHEMISTRY (6 or more semester hours each). Pre-
302 requisites, Biochemistry 103 and 104. *Equivalent of twelve or more hours a week, throughout both semesters, when requested.* Staff.

400 GENERAL REGISTRATION (0).

DEPARTMENT OF BOTANY

Professors: V. A. GREULACH, *Chairman*, J. N. COUCH,[1] H. R. TOTTEN,[2] J. E. ADAMS, A. E. RADFORD, D. B. ANDERSON, C. R. BELL, H. T. ODUM
Associate Professors: W. J. KOCH, M. H. HOMMERSAND, J. F. MCCORMICK
Visiting Associate Professor: G. S. RAMSEUR
Assistant Professors: C. J. UMPHLETT, E. G. BARRY, A. J. DOMNAS, W. J. WOODS, J. J. KOHLMEYER
Instructor: F. C. JAMES
Part-time Instructor: J. R. BAIRD
Director of Herbarium: A. E. RADFORD
Curator of Herbarium: J. R. BOZEMAN
Director of Coker Arboretum: C. R. BELL
Director of the North Carolina Botanical Garden: C. R. BELL
Landscape Designer of the North Carolina Botanical Garden: W. L. HUNT
Teaching Fellow: R. C. LEONARD
Research Associate: MARION SEILER
Research Assistants: D. J. DRAPALIK, DIANA FOWLER, WILMA KANE, W. W. MARTIN, G. L. MILLER, J. M. ROANE, M. N. SEARS
Teaching Assistants: T. R. BRADLEY, P. H. CAMPBELL, J. C. CLAUSZ, LEOLA CROSTHWAITE, D. E. CULWELL, F. P. CUMMING, R. M. DOWNS, MARGARET GREEN, G. A. HEATH, J. J. KURUC, HARRIETT LIPSCOMB, J. F. LOGUE, D. W. OTT, S. A. SPONGBERG, J. C. STEVENSON, J. A. STONESIFER, D. F. WHIGHAM, PEGGY WINTER

For the A.B. with major in botany the following courses are required: Botany 11, 51, 52, 53, and three additional courses in botany. Also required are Zoology 11 and one other course in zoology; one year of chemistry (preferably more, including organic); and either Physics 24-25 or Geology 41-42 (preferably both).

Those students who plan to teach in public high schools should read the instructions under the "School of Education," in Part III.

Courses for Undergraduates

11 GENERAL BOTANY (4). Open to all undergraduates regardless of their major field of interest. Prerequisite to all other courses in botany. Scientific study of the structure, life processes, reproduction, and heredity of plants. Also considered are the major groups of plants, plant classification, and the environmental relations and biological and economic significance of plants. *Three lecture and three laboratory hours a week, fall or spring and summer sessions.* Staff.

44 ECONOMIC BOTANY (3). Prerequisite, Botany 11. Sophomore elective. May also be taken as a nondivisional elective in the College of Arts and Sciences or a free elective in the School of Business Administration. A survey of the uses and economic aspects of plants and plant products in our present-day society, including horticultural, agricultural, and forest plants and the uses of plant materials in industry. *Three lecture hours a week, spring.* Bell.

51 FUNGI, ALGAE, AND BRYOPHYTES (4). Prerequisite, Botany 11. An introduction to the biology of bacteria, fungi, lichens, algae, liverworts, and mosses, with emphasis on their structure, development, and evolution. The

1. Kenan Professor.
2. Professor, Emeritus.

laboratory will also deal with their culture, collection, identification, and preservation. *Two lecture and four laboratory hours a week, fall.* Umphlett.

52 VASCULAR PLANTS (4). Prerequisite, Botany 11. A detailed study of the organs, tissues, and cells of vascular plants, with emphasis on the seed plants. *Two lecture and four laboratory hours a week, spring.* Adams.

53 FIELD BOTANY (4). Prerequisite, Botany 11. An introduction to the taxonomy and ecology of vascular plants. Lectures, laboratory, and field work on plant identification and classification, collecting and mounting of specimens, and plant communities. The student will become acquainted with over 100 species of native plants. *Two lecture and four laboratory hours a week, spring.* Bell.

99 SENIOR THESIS (4). Prerequisite, permission of the staff. Individual reading, study and research and preparation of an acceptable thesis. Required of all candidates for honors in their senior year. *Each semester.* Staff.

Courses for Graduates and Advanced Undergraduates

The stated prerequisites should be interpreted to read "or equivalent" and may be waived by the instructor for students apparently qualified to do the work of that course.

108 PRINCIPLES OF BOTANY (4). Designed for high school science teachers working toward the M.A.T. degree. Does not carry credit toward the M.A. and Ph.D. degrees. May be substituted for Botany 11 and 52 as a prerequisite for Botany 121, 151, 152, and 161. A study of important botanical facts and principles, with particular reference to physiology, anatomy, ecology, and genetics and with emphasis on recent developments and those aspects important as background for high school biology courses. The laboratory work includes experiments and demonstrations useful in high school courses. *Three lecture and three laboratory hours a week, fall.* Greulach or Radford.

109 THE PLANT KINGDOM (4). Designed for high school science teachers working toward the M.A.T. degree. Does not carry credit toward the M.A. and Ph.D. degrees. May be substituted for Botany 11 and 51 or 53 as a prerequisite for Botany 114, 115, 131, 135, and 141. A survey of the plant kingdom that acquaints the students with representatives of the major plant groups, with emphasis on comparative morphology, classification, evolution, and economic botany. The laboratory work provides experience with microscopic studies, collection and preservation of specimens, culture techniques, and identification. *Three lecture and three laboratory hours a week, spring.* Koch.

114 ALGAE (4). Prerequisite, Botany 51. Morphology, taxonomy, and ecology of fresh water and marine algae. *Two lecture and four laboratory hours a week, spring.* Hommersand.

115 FUNGI (4). Prerequisite, Botany 51. An introduction to the systematics, culture, collection, identification, and biology of fungi. *Two lecture and four laboratory hours a week, fall.* Koch.

120 INSTRUMENTAL METHODS IN BOTANY (4). Prerequisites, Botany 11 and Chemistry 11-21 or equivalents. Theory and application of instruments and procedures employed in botanical research, including chromatography, colorimetry, spectrophotometry, radioisotope tracer techniques, pH determination, Kjeldahl determinations, preparation and use of enzymes, and other biochemical and physiological techniques. *One lecture and six laboratory hours a week, spring.* Domnas.

121 PLANT PHYSIOLOGY (4). Prerequisites, Botany 11 and organic chemistry. A general introductory study of the life processes of plants, including water relations, mineral metabolism, photosynthesis, foods, digestion, respiration, assimilation, and growth. *Three lecture and three laboratory hours a week, spring.* Greulach.

131 TAXONOMY OF VASCULAR PLANTS (4). Prerequisite, Botany 53. *Two lecture and four laboratory hours a week, spring.* Radford.

135 DENDROLOGY (6). Prerequisite, Botany 53 or 131. A taxonomic study of the native and introduced woody plants, based largely on leaf, bark, and fruit characteristics. (1966-1967 and alternate years.) *Seven and one-half lecture and fifteen laboratory or field hours a week, first or second summer session.* Radford.

141 ECOLOGY (4). (Zoology 108.) Prerequisite, Botany 11 or Zoology 11. A study of the principles governing the environmental interrelationships of organisms, populations, communities, and ecosystems. *Three lecture and three laboratory hours a week, fall and spring.* McCormick, Odum, Stiven.

143 GEOBOTANY (3). Prerequisite, Botany 11 or Geography 38. Description of the major vegetation types of the world including their distribution, structure, and physiognomy. The principle causes for the distribution of vegetation units, such as climate, soils, and vegetation history will be discussed. *Three lecture hours a week, spring.* Lieth.

151 COMPARATIVE MORPHOLOGY OF LOWER VASCULAR PLANTS (4). Prerequisite, Botany 52. Detailed study of selected vascular plants to portray the evolutionary development of the group. *Two lecture and four laboratory hours a week, fall.* Adams.

152 PLANT ANATOMY (4). Prerequisite, Botany 52. Introduction to the developmental and comparative anatomy of vascular plants. Practice in methods of anatomical microtechnique. (1966-1967 and alternate years.) *Two lecture and four laboratory hours a week, spring.* Adams.

161 CYTOLOGY (4). Prerequisite, Botany 52. The study of the structure and function of plant and animal cells. (1966-1967 and alternate years.) *Two lecture and four laboratory hours a week, fall.* Bell.

171 GENETICS SYSTEMS (3). (Bacteriology 155, Biochemistry 155, Genetics 155, Pathology 155.) Prerequisite, Botany 11 or Zoology 11 or equivalent. The principles of inheritance as developed from investigations with all levels of organisms. *Three lecture hours a week, fall.* Barry and staff of Genetics Curriculum.

Courses for Graduates

211 ADVANCED MYCOLOGY: PHYCOMYCETES, ASCOMYCETES, BASIDI-
212 OMYCETES, AND FUNGI IMPERFECTI (5 each). Prerequisites, Botany 51, 115 or equivalent. Botany 211, Myxomycetes, Phycomycetes, Ascomycetes; Botany 212, Basidiomycetes and Fungi Imperfecti. *Two lecture and six laboratory hours a week, 212, fall; 211, spring.* Couch.

214 ECOLOGY OF FUNGI (4). Prerequisites, Botany 115, 141 or equivalent, or permission of the instructor. Study of interrelationships between fungi and their environment. Laboratory emphasis on methods, materials and fungi of aquatic ecosystems. (1965-1966 and alternate years.) *Two lecture and four laboratory hours a week, spring.* Umphlett.

216 MARINE ALGAE (5). Prerequisite, Botany 114 or equivalent. Structure, reproduction, systematics and ecology of marine algae. The laboratory will include field studies and culturing techniques. (1967-1968 and alternate years.) *Two lecture and six laboratory hours a week, fall.* Hommersand.

221 PLANT BIOCHEMISTRY (4). Prerequisites, Botany 121, Chemistry 43, 61 or equivalent. This course is concerned with study of enzymes, carbohydrate, nitrogen and lipid metabolism of systems commonly found in plants, algae, and fungi. *Four lecture hours a week, fall.* Domnas.

223 PLANT GROWTH (4). Prerequisite, Botany 121. Dynamics of plant growth, plant growth substances, influence of environment on growth, germination and dormancy, plant movements. (1966-1967 and alternate years.) *Two lecture and four laboratory hours a week, fall.* Greulach.

224 PHYSIOLOGY OF THE FUNGI (2 or 4). Prerequisites, Botany 115, 121. A study of the life processes of fungi with particular emphasis on those aspects which differ most from the physiology of green plants. Nutrition, respiration and fermentation, synthetic processes, and the effects of environmental factors on growth and sporulation are stressed. (1967-1968 and alternate years.) *Two lecture and report hours a week, spring. Four laboratory hours a week are optional.* Domnas.

226 ALGAL PHYSIOLOGY (5). Prerequisite, Botany 121 or Zoology 120 or equivalent. Photosynthesis, respiration, nutrition, growth and developmental process in algae. (1968-1969 and alternate years.) *Two lecture and six laboratory hours a week, fall.* Hommersand.

231 FLORISTICS (6). Prerequisites, Botany 131, 141, or equivalents. Field and laboratory studies of the fall flora in the major communities and habitats of Eastern North America. (1966-1967 and alternate years.) *Three lecture and six laboratory hours a week, fall.* Radford.

232 VARIATION AND EVOLUTION IN PLANTS (5). Prerequisite, Botany 131. Study of the processes and mechanisms of natural variation and evolution and of the taxonomic, geographic, and economic aspects of plant variation. (1967-1968 and alternate years.) *Three lecture and four laboratory hours a week, fall.* Bell.

233 PHYLOGENY AND CLASSIFICATION OF FLOWERING PLANTS (3). Prerequisite, Botany 131. Comparative study of modern systems of classification based upon morphological and phylogenetic considerations. (1967-1968 and alternate years.) *Three lecture or report hours a week, spring.* Adams.

241 AUTECOLOGY (4). Prerequisite, Botany 141 or Zoology 108. Integrated lecture, laboratory and field studies of environmental measurement and interpretation with emphasis upon the physiological responses and genetic adaptations of plant populations to environmental factors and other agents of natural selection. (1966-1967 and alternate years.) *Two lecture and four laboratory hours a week, fall.* McCormick.

242 RADIATION ECOLOGY (4). Prerequisite, Botany 141 or Zoology 108. The origin, distribution and significance of ionizing radiations in natural environments and the effects of irradiation upon living organisms. Emphasis is upon the ecological effects of irradiation upon populations and communities and the use of ionizing radiation as an analytical tool. Field and laboratory studies will include the use of radioisotopes and analysis of interactions between ionizing radiation and other environmental stresses upon populations and communities. (1967-1968 and alternate years.) *Two lecture and two laboratory hours a week, fall.* McCormick.

271 MICROBIAL GENETICS (4). Prerequisite, Botany 171, Zoology 111, or equivalent. Genetic mechanisms of microorganisms with particular reference to the fungi and algae. (1965-1966 and alternate years.) *Three lecture and three laboratory hours a week, spring.* Barry.

272 CYTOGENETICS (3). Prerequisite, Botany 171, Zoology 111, or equivalent. Critical study of research papers concerned with the behavior and organization of chromosomes. (1966-1967 and alternate years.) *Three lecture hours a week, spring.* Barry.

SEMINARS (1). Prerequisite, permission of the instructor. 318—Mycology: Couch, Koch, and Umphlett, *fall;* 319—Mycology: Couch, Koch, and Umphlett, *spring;* 328—Cell Biology and Biochemistry: Domnas, *fall;* 329—Cell Biology and Biochemistry: Domnas, *spring;* 338—Systematics: Adams, Radford, and Bell, *fall;* 339—Systematics: Adams, Radford, and Bell, *spring;* 348—Ecology: McCormick, *spring.*

SPECIAL TOPICS IN BOTANY (2 to 6). Prerequisite, permission of the instructor. Directed reading in selected areas of botany. Laboratory practice in related research methods may be included. *Individually supervised work, hours per week and credit to be arranged, each semester.* Staff, as follows: 311, Couch, Koch, or Umphlett (Mycology); 312, Hommersand (Algology); 321, Greulach (Physiology); 322, Hommersand (Physiology); 323, Domnas (Plant Biochemistry); 331, Adams, Radford, or Bell (Taxonomy); 341, McCormick (Ecology); 342, Adams (Plant Geography); 351, Adams (Morphology and Anatomy); 361, Bell (Cytology and Cytotaxonomy); 371, Barry (Genetics).

RESEARCH IN BOTANY (2 or more). Prerequisite, permission of the instructor. *Each semester.* Staff, as follows: 300, Hommersand (Algology); 310, Couch, Koch, or Umphlett (Mycology); 320, Greulach, Hommersand, or Domnas (Physiology and Plant Biochemistry); 330, Adams, Radford, or Bell (Taxonomy); 340, McCormick (Ecology); 350, Adams (Anatomy and Morphology); 360, Bell (Cytology and Cytotaxonomy); 370, Barry (Genetics).

393 MASTER'S THESIS (2 to 6). Prerequisite, permission of the staff. *Each semester.* Staff.

394 DOCTORAL DISSERTATION (2 to 6). Prerequisite, permission of the staff. *Each semester.* Staff.

400 GENERAL REGISTRATION (0).

SCHOOL OF BUSINESS ADMINISTRATION

Professors: M. W. LEE, *Dean,* E. E. PEACOCK,[1] G. T. SCHWENNING,[1] R. J. M. HOBBS,[1] R. P. CALHOON, C. H. MCGREGOR,[2] G. S. LOGSDON, W. J. GRAHAM,[3] C. A. KIRKPATRICK, G. A. BARRETT, C. C. CARTER, W. A. TERRILL, C. S. GEORGE, JR., C. H. KREPS,[4] H. Q. LANGENDERFER, A. B. COHAN, J. S. FLOYD, JR.,[5] H. A. LATANÉ,[6] D. C. DEARBORN, I. N. REYNOLDS, J. N. BEHRMAN

Visiting Professor: J. L. KNIPE

Associate Professors: D. J. MOFFIE, R. I. LEVIN,[7] T. H. JERDEE, R. TILLMAN, E. F. RENSHAW,[8] R. R. REHDER, J. H. TERRELL

Assistant Professors: J. D. EDWARDS,[8] R. B. DESJARDINS, G. D. BELL,[7] W. R. SHERRARD, D. L. TUTTLE

Visiting Assistant Professor: S. G. JAIN

Lecturers: F. J. SCHWENTKER,[9] W. S. STEWART, R. W. HOLSTEN, J. M. WRIGHT, W. P. WINDHAM, R. W. PHILLIPS, J. E. LITTLEFIELD, A. BRANNON, G. W. ADKINS

Lecturers in Residence: S. F. WOODELL, J. C. HARKNESS, L. H. HODGES

Part-time Instructors: R. B. CONRAD, R. A. DAILY, W. L. ELLIOTT, A. B. FLASHNER, T. S. GOHO, W. P. GREEN, L. A. LANG, R. W. MCENALLY, R. C. REINOSO, R. A. WEIR

The curriculum which leads to the degree of Bachelor of Science in Business Administration is described in detail in a separate bulletin of the School of Business Administration, which may be obtained by addressing a request to the Dean. Students in other schools and colleges wishing to take Business Administration courses for credit should consult their deans.

Courses for Undergraduates

Note: **Economics 31 and 32 or equivalents are prerequisite to all courses in Business Administration,** except as otherwise indicated. Economics 61 with a grade of *C* or better may, under certain circumstances, be substituted for Economics 31 and 32.

71 BASIC ACCOUNTING PRINCIPLES (3). Corequisite (or prerequisite), Economics 31-32 or equivalents. Role of accounting; basic concepts and methodology; mass data processing; valuation and income determination principles; management and internal control problems of basic financial statement components. *Fall and spring.* Staff.

72 FINANCIAL ACCOUNTING PRINCIPLES (3). Prerequisite, Business Administration 71 or equivalent. Designed primarily for accounting majors. Structure of financial statements and related accounting reporting problems; compound interest problems; analysis and interpretation of accounting data; income tax planning. *Fall and spring.* Staff.

73 ELEMENTARY MANAGERIAL ACCOUNTING (3). Prerequisite, Business Administration 71 or equivalent. Designed for non-accounting majors. Use-

1. Professor, Emeritus.
2. Burlington Industries Professor of Business Administration.
3. Died November 5, 1966.
4. Wachovia Professor of Banking.
5. Died April 27, 1966.
6. Drexel Research Professor.
7. Absent on leave, 1966-1967.
8. Resigned August 31, 1966.
9. Julian Price Lecturer in Life Insurance.

fulness and limitations of financial statement analysis; sources and uses of working capital and cash; elements of management accounting, analysis, reporting and control. *Fall and spring.* Staff.

91 BUSINESS LAW (3). *Fall and spring.* Carter, Stewart.

98 HONORS COURSE (3). Reading and preparation of an essay under the direction of a member of the faculty. *Fall.*

99 HONORS COURSE (3). Reading and preparation of an essay under the direction of a member of the faculty. *Spring.*

Courses for Graduates and Advanced Undergraduates

110 REAL ESTATE (3). Introduction to: the economic utilization of land; the real estate market; factors influencing values; legal relationships; financing; the impact of government. *Fall.* Staff.

120 RISK MANAGEMENT (3). Analysis of the financial problems inherent in the multitude of static risks which confront the business enterprise, and evaluation of the alternative methods of dealing with such problems utilized in modern scientific risk management. *Fall and spring.* Schwentker.

121 LIFE INSURANCE (3). Basic life insurance principles and practices; includes functions, types of contracts, premium and reserve calculations; legal aspects, settlement options and programming; risk selection, company organization and management. *Fall.* Schwentker.

122 PROPERTY INSURANCE (3). A study of the more important types of property coverages, including fire, marine, and inland marine insurance. Includes hazards, policy types, rate determination, company organization, financial analysis, and legal background. *Spring.* Schwentker.

123 CASUALTY INSURANCE (3). The social, economic, and legal bases for workmen's compensation, automobile, accident and health, burglary, fidelity, surety, and other casualty insurances. Includes rate-making, contract analysis, types of companies, and state regulation. *Fall.* Schwentker.

124 ADVANCED LIFE INSURANCE (3). Prerequisite, Business Administration 121 or equivalent. An introduction to the specialized life insurance services, such as advanced programming, Social Security benefits, wills, trusts, taxation, estate planning and business life insurance. *Spring.* Schwentker.

125 ADVANCED PROPERTY AND CASUALTY INSURANCE (3). Prerequisites, Business Administration 122 or 123 or equivalents. A study of multiple line insurance, advanced rate-making, financial statements, investments and reserves, insurance statistics, reinsurance, loss adjustment, insurance surveys and governmental regulation. *Spring.* Schwentker.

130 PRINCIPLES OF INDUSTRIAL MANAGEMENT (3). A survey of the basic principles and control practices of management. *Fall and spring.* George, Levin, DesJardins, Sherrard.

131 PROBLEMS IN INDUSTRIAL MANAGEMENT (3). Prerequisite, Business Administration 130, or equivalent. A case course covering the functions of planning, organizing and controlling the production process. *Fall.* George, Levin, DesJardins, Sherrard.

133 METHODS, STANDARDS AND WAGE INCENTIVES (3). Prerequisite, Business Administration 130 or equivalent. The principles of methods analysis, the development of standards, and the design and installation of incentive systems. *Spring.* George, Levin, Sherrard.

135 QUALITY CONTROL BY STATISTICAL METHODS (Economics 173) (3). Prerequisite, Economics 70 or equivalent. Control charts: variables; defects; defectives. Operating characteristic. Tolerance limits. Single; double; multiple and sequential sampling. Producer's and consumer's risk. AOQL. (1967-1968 and alternate years.) *Spring.* Cowden.

137 INDUSTRIAL MANAGEMENT CONTROLS (3). Prerequisite, Business Administration 130 or equivalent. Production, cost, quality, budgetary, and management control. *Spring.* George, Levin, Sherrard.

141 TRANSPORTATION MANAGEMENT (3). Management principles applied to transportation as a part of physical distribution. *Spring.* Blaine.

150 PERSONNEL RELATIONS (3). The human phase of organization, personnel efficiency, handling personnel situations, developing work teams, labor relations, and administration of other matters affecting the personnel of an organization. *Fall and spring.* Calhoon, Jerdee, Moffie, Bell, Jain.

156 PERSONNEL PROBLEMS (3). Prerequisite, Business Administration 150 or equivalent. An advanced course in personnel administration concentrating on major problems and policies in managing the human resources in an organization. *Fall and spring.* Calhoon.

158 PERSONNEL DEVELOPMENT (3). Prerequisite, Business Administration 150 or equivalent. Analysis of problems, methods and incentives in the development of personnel. Emphasis is on the development of supervisors and executives. *Fall and spring.* Calhoon, Jerdee.

160 PRINCIPLES OF MARKETING (3). Marketing organization and methods with emphasis on the social and economic aspects of distribution. Consumer problems, marketing functions and institutions, marketing methods and policies. *Fall and spring.* Tillman, McGregor, Bell, Littlefield.

161 ADVERTISING (3). Prerequisite, Business Administration 160 or equivalent. The organization and functions of advertising from the point of view of the business executive. Topics include economic and social aspects; types of advertising and purposes: media types; selection and evaluation; advertising research. *Fall and spring.* Kirkpatrick.

162 SALESMANSHIP AND SALES PROMOTION (3). Prerequisite, Business Administration 160 or equivalent. Principles of effective selling; professional aspects of personal selling; qualifications and obligations of salesmen; program planning and administration; interdepartmental coordination of promotion efforts. *Fall and spring.* Kirkpatrick.

165 RETAILING (3). Prerequisite, Business Administration 160 or equivalent. A study of the place of retailing in the economy. Topics include development of the present retail structure, functions performed, principles governing effective operations, modern store policies and practices, and managerial problems posed by social and economic trends. *Fall and spring.* McGregor.

167 SALES MANAGEMENT (3). Prerequisite, Business Administration 160 or equivalent. The planning, organization, and control of sales operations. Emphasis is placed upon the sales manager's functions and problems in manufacturing, wholesaling, and service establishments. *Fall and spring.* Logsdon.

168 INTRODUCTION TO MARKETING RESEARCH (3). Prerequisite, Business Administration 160 or equivalent. An introduction to research methodology with emphasis upon the compilation, analysis and interpretation of data used in the planning and control of marketing operations. *Fall and spring.* McGregor, Littlefield.

169 MARKETING POLICIES (3). Prerequisites, Business Administration 160, or equivalent, and senior standing. A problems method course dealing with specialized marketing functions and policies; includes product and line, brands, channels of distribution, prices and pricing, sales promotion, and operating diagnosis and control. *Fall and spring.* Logsdon, Kirkpatrick, Tillman.

170 ADVANCED FINANCIAL ACCOUNTING I (3). Prerequisite, Business Administration 72 or equivalent. Income measurement and valuation problems related to cash, marketable securities, receivables and special sales methods, inventories, long term investments, and liabilities. *Fall and spring.* Reynolds, Windham.

171 ADVANCED FINANCIAL ACCOUNTING II (3). Prerequisite, Business Administration 170 or equivalent. Income measurement and valuation problems related to plant and equipment, intangible assets and stockholder equity; partnership problems; insurance problems; price-level problems; and statement analysis. *Fall and spring.* Reynolds.

172 ACCOUNTING THEORY (3). Prerequisite, senior standing. Critical examination and analysis of accounting principles with emphasis on determination of cost and income, valuation and statement presentation. Study of current problems presented in accounting literature and business cases. *Spring.* Langenderfer.

173 COST ACCOUNTING (3). Prerequisite, Business Administration 72 or equivalent. Study of cost systems, including process, job order, and standard costs. Managerial use of information is stressed. *Fall and spring.* Terrill.

174 MANAGEMENT ANALYSIS, REPORTING AND CONTROL (3). Prerequisite, Business Administration 73 or 173. Development of reasonably precise formulations of specific objectives, concepts and analytical methods to serve the information needs of decision-making and control for various management problems. *Fall and spring.* Langenderfer.

175 AUDITING (3). Prerequisite, Business Administration 72 or equivalent. A course in auditing theory and practice. Auditing standards, procedures, rules of professional conduct, and related materials of professional importance are studied. *Fall and spring.* Terrell.

177 FEDERAL AND STATE TAXATION (3). Prerequisite, Business Administration 72 or 73. Federal and State tax laws and their application to tax situations for various taxable entities. Basic tax research and tax planning. *Fall and spring.* Wright, Windham.

178 SPECIALIZED ACCOUNTING PROBLEMS (3). Prerequisite, Business Administration 171 or equivalent. Advanced problems involving foreign exchange and branches, domestic branches, consolidations, estates and trusts, sick-business problems, compound interest applications, and governmental accounting. *Fall.* Staff.

179 CERTIFIED PUBLIC ACCOUNTING PROBLEMS (3). Prerequisites, major in accounting and permission of the instructor. A review of the general and specialized accounting problems which constitute the subject matter of C.P.A. examinations. *Spring.* Langenderfer, Reynolds.

180 BUSINESS FINANCE (3). Prerequisite, Business Administration 71 or equivalent. Principles and practices of the financing of non-financial corporations. Emphasis is upon the role of the finance executives in business organizations. Problems and cases are used to demonstrate solutions to managerial decisions involving cash flow and capital structure analysis. *Fall and spring.* Dearborn, Phillips, Kreps, Tuttle.

181 CAPITAL MARKETS (3). Prerequisite, Business Administration 180 and Economics 132. The underlying factors determining supply of and demand for funds, including the forces which determine the structure and pattern of interest rates; primary emphasis upon the private sectors of the financial community and the current state of the financial markets. *Fall and spring.* Phillips.

182 CASES IN BUSINESS FINANCE (3). Prerequisite, Administration 180 or equivalent. Attention is given to cases involving financial decisions for non-financial corporations. Both long and short term capital problems are considered. *Fall and spring.* Dearborn, Cohan.

185 COMMERCIAL BANKING (3). Prerequisite, Business Administration 180 or equivalent. Case studies and selected readings in commercial bank management. The management of lending; management of liquidity reserves; investment portfolio problems; problems of competition, capital and earnings, and other bank operating problems. *Fall and spring.* Kreps, Phillips.

186 INVESTMENTS (3). Prerequisite, Business Administration 180 or equivalent. Security analysis and investment-portfolio management, with special attention to the problems of the individual investor. *Fall and spring.* Latané, Tuttle.

191 INTRODUCTION TO INTERNATIONAL BUSINESS (3). Prerequisite, senior standing. Problems in operating overseas, including analysis of differences in country settings, legal and financial systems, and governmental policies affecting foreign operations. *Fall and spring.* Behrman.

192 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS (3). Prerequisite, senior standing. A survey of the elements and function of management information systems and an introduction to the principles underlying the design of effective systems. *Spring.* DesJardins.

194 CREDIT TRANSACTIONS AND SALES (3). Prerequisite, Business Administration 91 or equivalent. The law of negotiable instruments and the legal principles governing sales, including conditional sales and security transactions, are covered. *Fall and spring.* Carter, Stewart, Brannon.

195 LAW OF TRADE (3). Prerequisite, Business Administration 91 or equivalent. This course considers the law affecting the conduct of trade and industry; nature and scope of competition at common law, and legislative attempts to fix the boundaries of permissible competition. *Fall and spring.* Barrett.

196 HUMAN RELATIONS IN BUSINESS (3). Case studies and supplementary readings are used to develop skill in (1) recognition and analysis of problems in human interaction, and (2) formulation and communication of positive plans for responsible administrative action. *Fall and spring.* Calhoon, Moffie, Jain.

197 FUNDAMENTALS OF MANAGERIAL ORGANIZATION (3). Prerequisite, senior standing. A detailed analysis of the basic problems of organizing manpower. *Fall and spring.* George, Rehder.

198 OPERATIONS RESEARCH (3). Prerequisite, Economics 70 or equivalent. The use of quantitative methods in the solution of problems of interest to management. Optimum decision models are developed for conditions of certainty and uncertainty. Topics include linear programming, Bayes Theorem, game theory, allocation, queuing, inventories, replacement theory and Markov chains. *Fall and spring.* Levin, DesJardins.

199 MANAGEMENT SIMULATION (3). Open to seniors only. A seminar simulating the operation of a complex business enterprise. Three student teams operate competing firms in an industrial environment simulated by the IBM 360 Computer. *Fall and spring.* DesJardins; staff.

Courses for Graduates

200 QUANTITATIVE METHODS I (3). Statistical methods for the solution of management problems including frequency distributions, correlation and regression, time series analysis, index numbers, probability and statistical inference. *Fall.* DesJardins, Levin.

201 QUANTITATIVE METHODS II (3). Decision models under conditions of certainty and uncertainty including matrix algebra, mathematical programming, allocation, inventories, replacement, Markov chains, queuing, utility functions and incremental analysis. *Spring.* DesJardins, Levin.

205 DECISION THEORY (3). Prerequisite, Business Administration 201 or equivalent. Application of the techniques of decision theory to problems which require the use of multi-stage or sequential decision models. *Fall.* DesJardins.

206 QUANTITATIVE DECISION METHODS (3). Prerequisite, Business Administration 205. Generalized models for making choices are developed and analyzed through the use of payout matrices. *Spring.* DesJardins.

207 HISTORY OF MANAGEMENT THOUGHT (3). A comparative study and evaluation of the development of management thought. *Spring.* George.

208 SIMULATION THEORY (3). Prerequisite, permission of the instructor. Theory and techniques of simulation and gaming, and their use for investigating multivariable interrelationships in complex systems. *Fall.* DesJardins.

209 BASIC QUANTITATIVE TECHNIQUES I (Economics 209) (3). Prerequisite, permission of the instructor. Elementary calculus with applications in economic theory, statistics, and management science. *Fall.* Staff.

210 BASIC QUANTITATIVE TECHNIQUES II (Economics 210) (3). Prerequisite, permission of the instructor. Matrix algebra and multi-dimensional calculus, with applications in economics theory, statistics, and management science. *Spring.* Staff.

220 INTERNATIONAL BUSINESS (3). Procedures and problems of doing business abroad; analysis of institutional settings overseas and of policies of the United States and other governments toward foreign business. *Fall.* Behrman.

225 STUDIES IN INTERNATIONAL BUSINESS (3). Prerequisite, Business Administration 220 or permission of instructor. Individual analysis of problems on a functional or on an industry basis. Analysis will also be required of a geographic region, including its attractiveness to U. S. business, its commercial, financial and economic conditions as well as its competitive situations and government policies. *Spring.* Behrman.

226 LINEAR PROGRAMMING (Economics 226) (3). Topics in linear programming and game theory. *Fall.* Hamburger, Murphy.

227 ADVANCED MATHEMATICAL PROGRAMMING (Economics 227) (3). Prerequisite, Business Administration 226 (Economics 226) or equivalent. Theory of multi-stage multivariate models and their use for solving problems in management and economics. *Spring.* Staff.

230 PRODUCTION MANAGEMENT (3). Analysis and solution of production problems in the total firm environment. The development of production policies and controls under varying objectives and constraints. *Spring.* George, Levin.

231 SEMINAR IN PRODUCTION POLICY (3). Prerequisite, Business Administration 230 or equivalent. Production policy formulation and administration by case analysis in selected industries, emphasizing integration of production management with the major goals of the organization. *Fall.* George, Levin.

232 MANAGEMENT INFORMATION SYSTEMS (2). A study of the theory, design and use of man-machine information systems for decision-making in a management context. Analysis of the computer and communications equipment supporting such systems. *Spring.* Staff.

233 FUNDAMENTALS OF ORGANIZATION (2). An intensive examination of the process of organization and its application to managerial endeavors. *Fall.* George.

234 APPLIED QUANTITATIVE METHODS IN MANUFACTURING (3). Prerequisite, second year standing in the MBA Program. Use of quantitative procedures to generate operational solutions to problems in scheduling, allocation of facilities, equipment utilization, materials control, logistics, facility design, assignment, and output planning. *Spring.* Levin.

250 PERSONNEL ADMINISTRATION (3). Prerequisite, Business Administration 150 or equivalent. A study of the factors contributing to the building and maintenance of an effective work force. Analysis of problems by case study. *Fall and spring.* Calhoon, Jerdee, Moffie.

260 MARKETING MANAGEMENT (3). A course to develop an understanding of marketing problems and to survey policies and procedures for the formulation, execution, and appraisal of marketing programs. *Spring.* Tillman.

261 MARKETING PROGRAMS (3). Prerequisite, Business Administration 260 or equivalent. An advanced course in the development of marketing strategies; the identification and selection of objectives and determination of appropriate marketing programs. *Fall and spring.* Staff.

269 MARKETING EVALUATION AND CONTROL (3). Prerequisite, Business Administration 260 or equivalent. An advanced course in the analysis of marketing performance, the evaluation of policies and procedures, development of information and research to provide management controls over marketing operations. *Spring.* Staff.

270 FINANCIAL AND MANAGEMENT ACCOUNTING (4). Study of the principles and concepts underlying financial reporting. Analysis of the use of cost and quantitative data for managerial planning and control. Designed to provide an understanding of accounting measurements and an appreciation of the ways in which managers use accounting data. *Fall.* Langenderfer.

272 ADVANCED FINANCIAL ACCOUNTING THEORY (3). Critical examination of accounting concepts and standards. Emphasis on income determination and contemporary development reflected in research bulletins, monographs, journals, textbooks, and reports. *Spring.* Staff.

273 MANAGEMENT ACCOUNTING THEORY (3). Prerequisite, Business Administration 173 or equivalent. Study of the basic concepts, methods and controversial problems involved in the use of accounting and other quantitative tools in aiding management to plan, coordinate, control operations and appraise results. *Spring.* Terrill.

274 ACCOUNTING SYSTEMS (3). Prerequisites, Business Administration 171 and 173, or equivalents. The design and installation of accounting systems for textile and furniture manufacturing firms, banks, and public utilities. *Recitation, two hours; laboratory, two hours. Spring.* Staff.

280 FINANCIAL MANAGEMENT (3). Analysis of financial problems and policies of non-financial firms including working capital management, capital rationing and cost of capital, and capital structures. *Spring.* Dearborn.

285 BANKING POLICIES AND PROBLEMS (3). Prerequisites, Economics 132 and Business Administration 180, or equivalents. The management of financial institutions, especially commercial banks. *Fall.* Kreps.

286 INVESTMENT POLICIES (3). Prerequisite, Business Administration 180 or equivalent. A basic treatment of investment policies with emphasis upon long-run values. Portfolio policies of financial institutions are examined. *Spring.* Latané.

287 QUANTITATIVE APPLICATIONS IN FINANCIAL MANAGEMENT (3). Prerequisite, Business Administration 280 or equivalent. Examination of selected mathematical and statistical tools, and exploration of their applicability to problems faced by the financial manager of an organization. *Spring.* Tuttle.

292 LABOR-MANAGEMENT RELATIONS (Economics 292) (3). An advanced study of the procedure, subject matter and legal framework of collective bargaining. *Spring.* Guthrie.

294 BUSINESS AND SOCIETY (3). An analysis of the external environment of which management must be cognizant and of those external factors which may influence management decisions. *Spring.* Barrett.

295 BUSINESS POLICY (3). Integrating and building upon the business administration core, this course approaches policy-making and administration in a firm from the point of view of top management. *Fall and spring.* Barrett.

296 HUMAN BEHAVIOR IN MANAGEMENT (4). Application of the behavioral sciences in business administration; individual differences in aptitudes, interests, and temperament; learning; motivation and morale; social perception; reactions to change; problem-solving and decision-making; small group dynamics; leadership, communication; intergroup relations. *Fall.* Moffie.

297 BUSINESS RESEARCH AND REPORT WRITING (3). Analytical skills and methods of communicating decisions through the medium of the report are developed through the preparation of a variety of written reports. Sources of information and their effective use are also stressed. *Fall.* Holsten.

298 MANAGEMENT SIMULATION (3). Prerequisite, permission of the instructor. A seminar in the application of analytical techniques and managerial principles to policy formulation and implementation in a complex computer-simulated environment. *Spring.* DesJardins.

299 SEMINAR IN BUSINESS POLICY (3). Prerequisite, Business Administration 295 or equivalent. Case analysis in depth of top management problems. *Spring.* Barrett.

300 QUANTITATIVE METHODS IN MANAGEMENT I (3). Prerequisite, Business Administration 209 and Economics 70, or equivalents. Multivariable deterministic models, Stochastic models, linear equations and matrices, linear systems. *Fall.* Staff.

301 QUANTITATIVE METHODS IN MANAGEMENT II (3). Prerequisite, Business Administration 300 or equivalent. Statistical inference, analysis of variance, regression and correlation, time series analysis, multiple regression, design of experiments, statistical decision theory. *Spring.* Staff.

302 CURRENT RESEARCH IN MANAGEMENT SCIENCE (0). Prerequisite, permission of the instructor. Survey of the current literature in management science and operations research. *Spring.* Staff.

307 SEMINAR IN THE HISTORY OF MANAGEMENT THOUGHT (3). An advanced course dealing with the evolution of management thought. *Fall.* George.

330 MANAGEMENT THEORY (3). Analysis of current developments in the theory underlying the basic functions of management. *Fall.* Levin, George.

333 ORGANIZATION THEORY (3). An intensive examination of the literature and fundamental concepts of organization and their applications to managerial action. *Fall.* Levin, George.

334 ADVANCED ORGANIZATION THEORY (3). Prerequisite, Business Administration 333 or equivalent. The significant current literature in the field of organization theory and organization behavior, with particular attention to the problems of interaction between the various operating units within the total firm environment. *Spring.* George, Rehder.

337 THEORY OF PLANNING AND CONTROL (3). Study of the literature concerning the development of measures designed to control managerial and operating level action. *Fall.* Levin, George.

338 NORMATIVE QUANTITATIVE MANAGEMENT THEORY (3). Prerequisite, Business Administration 301 or equivalent. The influence of quantitative decision methods on the establishment of operational rules consistent with a firm's long range strategy. *Spring.* Levin.

350 APPLIED BEHAVIORAL SCIENCES IN MANAGEMENT (3). Prerequisite, permission of the instructor. Analysis of the research findings of the behavioral sciences in relation to management problems, including individual differences, motivation, learning theory, group dynamics, and decision-making. *Fall and spring.* Moffie.

360 SEMINAR IN MARKETING I (3). Prerequisite, permission of the instructor. Intensive study of problems in establishing marketing goals, consumer demand, product selection and identification, pricing policies and decisions. *Fall.* Staff.

361 SEMINAR IN MARKETING II (3). Prerequisite, Business Administration 360. Intensive study of problems in design of distribution channels, marketing logistics, promotional decisions and evaluation, sales forecasting and analysis. *Spring.* Staff.

363 SEMINAR IN MARKET COMMUNICATION AND STIMULATION (3). Prerequisite, permission of the instructor. Individual research on market problems involving communication and stimulation. Typical problems: communication processes of marketers; communication media; objectives and techniques; evaluation of communication effectiveness; promotional programs. (1966-1967 and alternate years.) *Fall.* Kirkpatrick.

364 SEMINAR IN CONSUMER BEHAVIOR (3). Prerequisite, permission of the instructor. Concepts and research from the behavioral sciences germane to marketing are explored through readings, discussions and individual research assignments. (1966-1967 and alternate years.) *Spring.* Tillman.

366 SEMINAR IN DISTRIBUTION MANAGEMENT (3). Prerequisite, permission of the instructor. Advanced study in the area of marketing logistics, institutions, distribution cost fundamentals, and related problems. (1967-1968 and alternate years.) *Fall.* Logsdon, McGregor.

368 SEMINAR IN MARKETING RESEARCH METHODOLOGY (3). Prerequisite, permission of the instructor. Study of research design, methods of data collection and analysis, sample design, and problems of measurement in research in marketing. *Spring.* Staff.

372 SEMINAR IN CURRENT ACCOUNTING ISSUES (3). Prerequisite, permission of the instructor. Analysis of current accounting issues through readings, discussion, and individual research assignments. Typical problems include pensions, leases, price-level and other controversial issues. (1967-1968 and alternate years.) *Fall.* Staff.

374 SEMINAR IN CONCEPTS OF BUSINESS INCOME (3). Prerequisite, permission of the instructor. Study of concepts of business income which have evolved in various disciplines; examination of the degree of interdependence of such concepts; and the extent to which the accounting concept of business income has influenced or been influenced by other concepts. (1968-1969 and alternate years.) *Fall.* Staff.

377 SEMINAR IN TAXATION (3). Prerequisite, permission of the instructor. Analysis of selected topics for various taxable entities, including the nature and significance of taxation affecting business decisions, the development of tax law, and critical appraisal of the current law. (1967-1968 and alternate years.) *Spring.* Langenderfer.

380 THEORY OF FINANCIAL MANAGEMENT I (3). Prerequisite, permission of the instructor. Review of the theory of financial management. *Fall.* Staff.

381 THEORY OF FINANCIAL MANAGEMENT II (3). Prerequisite, Business Administration 380 or equivalent and permission of the instructor. Review of tests of various aspects of the theory of financial management, and critical evaluation of the theory's usefulness to financial managers. *Spring.* Staff.

385 SEMINAR IN RESEARCH IN FINANCE (0). Prerequisite, permission of the instructor. Advanced research in business finance and investment. An informal seminar to discuss current research of doctoral candidates, faculty and others. *Fall and spring.* Staff.

386 SEMINAR IN PORTFOLIO MANAGEMENT (Economics 386) (3). Prerequisite, permission of the instructor. Development testing, and economic effects of models for determining the selection of assets. *Spring.* Latané.

387 QUANTITATIVE METHODS IN FINANCE (3). Prerequisite, permission of the instructor. Review of information-generating and optimizing models, and their applicability to decision-making in finance. *Spring.* Cohan.

390 SEMINAR IN BUSINESS ECONOMICS (3). Prerequisite, Economics 200 or permission of the instructor. Review of theory of demand and supply, statistical measurement of demand, statistical measurement of costs, uncertainty, change, theory of investment. *Spring.* Cohan, Latané.

393 MASTER'S THESIS. *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION. *Fall and spring.* Staff.

397 SEMINAR IN THE MODERN CORPORATION (3). Prerequisite, permission of the instructor. An analysis of the areas of conflict between the internal objectives of management and their external impact. *Fall.* Barrett.

398 RESEARCH METHODOLOGY (3). Prerequisite, permission of the instructor. A course in research concepts, objectives and methods. *Spring.* Staff.

399 SEMINAR. Prerequisite, permission of the instructor. Individual research in a special field under the direction of a member of the Department. *Fall and spring.*

400 GENERAL REGISTRATION (0).

DEPARTMENT OF CHEMISTRY

Professors: W. F. Little, *Chairman,* H. D. Crockford, J. T. Dobbins,[1] O. K. Rice,[2] F. H. Edmister,[1] S. B. Knight, R. L. McKee, H. C. Thomas, J. C. Morrow III, C. N. Reilley,[2] R. G. Hiskey, J. P. Collman

Visiting Professor: J. J. Hermans

Associate Professors: F. N. Collier, Jr., R. C. Jarnagin, R. W. Murray, D. C. Jicha

Assistant Professors: J. L. Coke, W. E. Hatfield, H. H. Dearman, B. F. Spielvogel, M. M. Bursey, R. D. Rieke, D. G. Whitten

Lecturer: F. T. Semeniuk

Instructor: P. W. Schneider

Visiting Scholars: M. Kubota, P. E. Fielding

Research Associates: K. Akasaka, A. B. Bardawil, K. Blazevic, Sandra Boatman, J. N. Burnett, M. R. Chamberland, E. I. Choi, Klaas DeGroot, Yuzuru Fujiwara, Sally Horner, Kazuhiko Ishizu, F. T. Lang, G. W. O'Dom, P. W. Schneider, R. L. Smith, Dincer Ulku, E. Weissberger, Robin Whyman, R. A. Wieler

Teaching Fellows: Benjamin F. Ward, Judith Crissman, Gerald P. Pfeifer

Non-Teaching Service Fellows: L. R. Dusold, Elizabeth A. Wilson

Teaching Assistants: G. H. Britton, S. T. Clements, R. H. Cobb, R. W. Creekmore, I. H. Doetsch, L. P. Egan, A. F. Eidson, T. A. Elwood, L. W. Hall, F. M. Hauser IV, D. A. Herold, B. P. Huddle, M. G. Jones, W. C. Jones, Jr., D. E. Kellog, M. B. King, P. T. Kissinger, J. R. Layton, Y. J. Lee, V. G. Matl, Ronald Meck, M. S. Millman, G. N. Mitchell, M. C. Mourning, P. J. Nassiff, T. E. Neal, Sue O'Dell, C. B. Pate, Jean Pearson, Abraham Philip, J. M. Purser, W. E. Rich, L. J. Rivela, D. T. Roberts, Jr., M. E. Safdy, W. I. Sivitz, James North Smith, Jerry Claude Smith, A. M. Thomas, O. C. Todd, C. E. Twine, A. S. Vanek, D. E. Wagoner, H. A. Webb, P. D. Wildes, R. E. Williamson, E. S. Wolfe, D. C. Young, B. M. Zarnegar, T. N. Blackmon, E. M. Macon, Jr., R. H. Kherlopian

For the A.B. with a major in chemistry, one of the following four sequences of courses may be selected: Chemistry 11-21, 43, 51, 61, 62, 44 or 83; or Chemistry 11-12, 21, 43, 61, 62, 44 or 83; or Chemistry 11-21, 43, 44, 51, 61, 64, 83; or Chemistry 11-12, 21, 43, 44, 61, 64, 83.

1. Professor, Emeritus.
2. Kenan Professor.

Those students who take Chemistry 61s and 62s (summer school) should consider these as Chemistry 61 and 64 in the preceding sequences.

Those students who plan to teach in public high schools should see "School of Education" in Part III.

Bachelor of Science in Chemistry[3]

For freshman and sophomore years see "General College," Part III.

JUNIOR YEAR

Chemistry 61, 62
Chemistry 181, 182
Elective, 2 nonscience courses

SENIOR YEAR

English 33
Botany 11 or Zoology 11
Chemistry 45
[4]Chemistry electives, 2 courses
Nonscience electives, 1 course
Free elective, 1 course
Two of the following courses, at least one to be in Physics: Physics 103, 104, 105, 106, 107, 108; Mathematics 141 and 171

Courses for Undergraduates[5]

11-12 GENERAL DESCRIPTIVE CHEMISTRY (4 each). *Three lecture and three laboratory hours a week, fall and spring.* Staff.

11-21 GENERAL DESCRIPTIVE CHEMISTRY AND QUALITATIVE ANALYSIS (4 each). *Three lecture and three laboratory hours a week, fall and spring.* Staff.

43 ELEMENTARY QUANTITATIVE ANALYSIS (5). Prerequisite, General Chemistry and Qualitative Analysis. Beginning quantitative analysis emphasizing volumetric, gravimetric, and instrumental analysis techniques. *Two lecture and six laboratory hours a week, fall and spring.* Bursey, Knight, Reilley, Murray.

44 QUANTITATIVE ANALYSIS: SECOND COURSE (5). Prerequisite, Chemistry 43. A continuation of gravimetric and volumetric chemistry and an introduction to other analytical techniques. *Two lecture and six laboratory hours a week, spring.* Bursey, Knight, Reilley, Murray.

45 ADVANCED QUANTITATIVE ANALYSIS (4). Prerequisite, Chemistry 43; corequisite, Chemistry 182. Advanced quantitative analysis with special emphasis on instrumental methods. *Two lecture and four laboratory hours a week, spring.* Bursey, Knight, Reilley, Murray.

51 INORGANIC CHEMISTRY (4). Prerequisite, Chemistry 21 or equivalent. *Three lecture and three laboratory hours a week, fall and spring.* Collier, Collman, Jicha, Hatfield, Spielvogel.

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3. This program meets the requirements of the American Chemical Society for the training of professional chemists.

4. Two chemistry elective courses to total a minimum of five semester hours, at least one of which includes laboratory.

5. For all laboratory courses in the Department, there is a breakage fee ranging from $5.00 to $20.00 per semester charged by the Scientific Supply Room to cover the cost of certain non-returnable items and to cover the cost of any apparatus a student may break. The balance of this deposit is returned when the student checks out of the course.

61 ORGANIC CHEMISTRY (6 each). Prerequisite, Chemistry 21. *Three*
62 *lecture and six laboratory hours a week, both courses offered fall and spring.* McKee, Little, Hiskey, Collman, Coke, Whitten, Rieke.

64 ORGANIC CHEMISTRY (2). Prerequisite, Chemistry 61. Designed for premedical and predental students. No credit given for this course if Chemistry 62 (as offered on the semester basis) is taken. *Two hours a week, fall and spring.* McKee, Little, Hiskey, Collman, Coke, Whitten, Rieke.

83 PHYSICAL CHEMISTRY FOR PREMEDICAL STUDENTS (4). Prerequisites, Chemistry 43, 61, any two of the following: Mathematics 1, 2, 15, 31, and one year of college physics. Does not carry credit toward the B.S. degree in Chemistry. Designed for students taking predental, premedical, pharmaceutical, or biological work. *Three lecture and two laboratory hours a week, spring.* Crockford, Morrow, Jarnagin, Knight.

97 COURSES FOR HONORS (3 each). Prerequisites, Chemistry 181 and ad-
98 mission to Honors program by Honors Program Committee. Open to undergraduates in the B.S. Chemistry program only. *Three hours a week, fall and spring.* Collman; staff.

Courses for Graduates and Advanced Undergraduates

101 SPECIAL PROBLEMS IN CHEMISTRY (1 to 3). Prerequisite, to be determined by consultation with Department Chairman. *Equivalent of one to three hours a week, every semester.* Staff.

143 THEORETICAL ANALYTICAL CHEMISTRY (3). Prerequisites, Chemistry 43, 44. *Three hours a week, fall.* Knight.

145 INSTRUMENTAL ANALYSIS, ELECTRICAL METHODS (4). Prerequisites, Chemistry 43, 44, one year of college physics. *Two lecture and four laboratory hours a week, fall.* Bursey, Knight, Reilley, Murray.

146 INSTRUMENTAL ANALYSIS, OPTICAL METHODS (4). Prerequisites, Chemistry 43, 44, one year of college physics. *Two lecture and four laboratory hours a week, spring.* Bursey, Knight, Reilley, Murray.

147 QUANTITATIVE ORGANIC MICROANALYSIS WITH SOME QUANTITATIVE ANALYSIS OF FUNCTIONAL GROUPS (2). Prerequisites, Chemistry 43, 44, 62; prerequisite or corequisite, Chemistry 163. *Four laboratory hours a week, fall.* Bursey, McKee.

151 ADVANCED INORGANIC CHEMISTRY (3 each). Prerequisites or co-
152 requisites, Chemistry 181, 182. *Three hours a week, fall and spring.* Collier, Jicha, Hatfield, Spielvogel, Collman.

154 INORGANIC PREPARATIONS (3). Prerequisite, Chemistry 51; prerequisites or corequisites, Chemistry 181, 182. *Four laboratory hours a week, fall or spring.* Collier, Jicha, Hatfield, Spielvogel, Collman.

163 QUALITATIVE ORGANIC ANALYSIS (5). Prerequisites, Chemistry 61, 62. *Two lecture and six laboratory hours a week, fall.* McKee, Little, Coke, Whitten, Rieke.

166 ADVANCED ORGANIC CHEMISTRY (3 each). Prerequisite or corequi-
167 site, Chemistry 163. *Three hours a week, fall and spring.* McKee, Hiskey, Little, Collman, Coke, Whitten, Rieke.

168 STRUCTURE DETERMINATION IN ORGANIC CHEMISTRY (3). Prerequisite, Chemistry 166. *Three hours a week, spring.* McKee, Hiskey, Little, Collman, Coke, Whitten, Rieke.

169 ADVANCED ORGANIC PREPARATIONS (2). Prerequisite or corequisite, Chemistry 166. *Four laboratory hours a week, fall or spring.* McKee, Hiskey, Little, Collman, Coke, Whitten, Rieke.

172 RADIOCHEMISTRY (3). Prerequisites, Chemistry 21, Physics 24, 25, and at least senior standing. *Three hours a week, fall.* Collier; others.

173 LABORATORY TECHNIQUES IN RADIOCHEMISTRY (2). Prerequisite, Chemistry 172 or equivalent. *Four laboratory hours a week, spring.* Collier; others.

180 PRINCIPLES OF PHYSICAL CHEMISTRY (3). Prerequisite, Chemistry 43. May not be credited toward a degree in Chemistry. *Three hours a week, fall.* Crockford, Morrow.

181 PHYSICAL CHEMISTRY (6 each). Prerequisites, Chemistry 43 or equiva-
182 lent, satisfactory work in physics and integral and differential calculus; prerequisites or corequisites, Chemistry 61, 62. *Three lecture and six laboratory hours a week, fall and spring.* Crockford, Morrow, Jarnagin, Dearman, Thomas.

184 CHEMICAL THERMODYNAMICS (3 each). Prerequisites, Chemistry 181,
185 182. Chemistry 184, basic principles of thermodynamics, and Chemistry 185, advanced topics. *Three hours a week, fall and spring.* Crockford, Morrow, Thomas, Jarnagin, Dearman.

186 ADVANCED PHYSICAL CHEMISTRY (3 each). Prerequisites, Chemistry
187 181, 182, or equivalent preparation. *Three hours a week, fall and spring.* Jarnagin, Dearman.

188 REACTION KINETICS (3). Prerequisites, Chemistry 181, 182. *Three hours a week, spring.* Crockford, Morrow, Rice, Jarnagin, Dearman.

Courses for Graduates

242 SEMINAR IN ANALYTICAL CHEMISTRY (3 each). Prerequisite or co-
243 requisite, Chemistry 143. *Three hours a week, fall and spring.* Staff.

244 SPECIAL TOPICS IN ANALYTICAL CHEMISTRY (2 each). Prerequisite,
245 Chemistry 182. (244, 245, 1963-1964 and alternate years; 246, 1964-1965 and
246 alternate years.) *Two hours a week, fall and spring.* Bursey, Knight, Reilley, Murray.

251 SPECIAL TOPICS IN INORGANIC CHEMISTRY (2 each). Prerequisites,
252 Chemistry 151, 152. *Two hours a week, fall and spring.* Collier, Jicha, Hatfield, Spielvogel, Collman.

254 SEMINAR IN INORGANIC CHEMISTRY (2). Prerequisites, Chemistry 151, 152. (1964-1965 and alternate years.) *Two hours a week, spring.* Collier, Jicha, Hatfield, Spielvogel, Collman.

255 SEMINAR IN INORGANIC CHEMISTRY (2). Prerequisites, Chemistry 151, 152. (1963-1964 and alternate years.) *Two hours a week, spring.* Collier, Jicha, Hatfield, Spielvogel, Collman.

261 LITERATURE SEMINAR IN ORGANIC CHEMISTRY (2 each). Pre-
262 requisite, graduate standing. (1963-1964 and alternate years.) *Two hours, or equivalent, a week, fall and spring.* McKee, Little, Hiskey, Collman, Coke, Whitten, Rieke.

263 ORGANIC REACTION MECHANISMS (3). Prerequisites, Chemistry 166, 167, 181, 182. (1964-1965 and alternate years.) *Three hours, or equivalent, a week, fall.* Little, Whitten, Rieke.

264 SPECIAL TOPICS IN ORGANIC CHEMISTRY (2 each). Prerequisite,
265 Chemistry 166. *Two hours, or equivalent, a week, fall and spring.* McKee, Little, Hiskey, Collman, Coke, Whitten, Rieke.

267 ORGANIC CHEMISTRY (3 to 6). Prerequisite, to be determined by consultation with professor in charge. *Three to six hours a week, every semester.* McKee, Little, Collman, Hiskey, Coke, Whitten, Rieke.

281 ATOMIC AND MOLECULAR CHEMISTRY (3). Prerequisites, Chemistry 181, 182. *Three hours a week, fall.* Rice.

282 CHEMICAL BINDING AND VALENCE (3). Prerequisite, Chemistry 281. *Three hours a week, spring.* Rice.

284 STATISTICAL MECHANICAL PROBLEMS IN CHEMISTRY (4). Prerequisite, Chemistry 281. *Four hours a week, fall.* Rice, Morrow.

286 SPECIAL TOPICS IN PHYSICAL CHEMISTRY (2). Prerequisites, Chemistry 184 and 281 or equivalent. *Two hours a week, fall and spring.* Crockford, Rice, Morrow, Thomas, Jarnagin, Hermans, Dearman.

287 LITERATURE SEMINAR IN PHYSICAL CHEMISTRY (2). Prerequisite, graduate standing. *Fall and spring.* Rice, Crockford, Thomas, Morrow, Jarnagin, Dearman.

RESEARCH COURSES

301 RESEARCH (1 or more). Graduate staff.

341 ANALYTICAL CHEMISTRY (1 or more). Bursey, Knight, Reilley, Murray.

351 INORGANIC CHEMISTRY (1 or more). Collier, Jicha, Hatfield, Spielvogel.

361 ORGANIC CHEMISTRY (1 or more). McKee, Little, Hiskey, Collman, Coke.

381 PHYSICAL CHEMISTRY (1 or more). Crockford, Rice, Morrow, Thomas, Jarnagin, Dearman.

393 MASTER'S THESIS (1 or more).

394 DOCTORAL DISSERTATION (1 or more).

400 GENERAL REGISTRATION (0).

DEPARTMENT OF CITY AND REGIONAL PLANNING

Professors: J. A. PARKER, *Chairman*, J. M. WEBB, F. S. CHAPIN, JR., P. P. GREEN, D. A. OKUN, M. M. HUFFSCHMIDT, M. S. HEATH
Associate Professors: S. F. WEISS, R. T. DALAND, R. A. GAKENHEIMER, G. C. HEMMENS
Visiting Associate Professor: M. HILL
Assistant Professors: H. C. HIGHTOWER, E. J. KAISER, M. A. STEGMAN
Lecturers: R. N. ANDERSON, JR., M. P. BROOKS, S. COHN, G. H. ESSER, JR., J. L. KNETSCH, H. W. KNOX, G. T. LATHROP, P. H. STEWART, A. N. TUTTLE, JR.

The Department of City and Regional Planning offers two degree programs, both at the graduate level. A two-year program preparing for professional practice in city and regional planning leads to the degree of Master of Regional Planning. A program leading to the degree of Doctor of Philosophy prepares for academic careers in teaching and

research. These two programs, opportunities in the field of city and regional planning, and application procedures are described in detail in a separate bulletin of the Department of City and Regional Planning which may be obtained by addressing a request to the Department.

A bachelor's degree from an institution of recognized standing is required for admission. While the design professions, the social sciences, and engineering are the most clearly relevant undergraduate backgrounds in preparation for graduate work in planning, there is increasing need in the field for people prepared in the humanities and physical sciences, and many opportunities for students in other fields. Applications for admission are generally considered in view of the student's past record and interest in planning.

Undergraduates who contemplate graduate work in planning are advised to discuss their programs with the Chairman of the Department as early as possible. Planning 106, Introduction to City and Regional Planning, is offered each fall semester and is open to juniors and seniors. Other courses open to advanced undergraduates include: Planning 160, History of Urban Development, Planning 176 (Econ. 120), Location and Space Economy, and Planning 178 (Econ. 121), Regional Science Techniques. Introductory courses in cartography, design, economics, history of art and architecture, logic, philosophy, political science, and sociology, while not prerequisites, are recommended as valuable preparation for students in planning. An introductory course in statistics is a prerequisite or corequisite of the program.

Important resources available to the Department include the Institute of Latin American Studies, the Computation Center, and the Urban and Regional Studies Program, a research activity of the Institute for Research in Social Science. Established in 1953, the work of the Program has been facilitated by a Ford Foundation grant to investigate emerging forms of metropolitanism and develop approaches to problems of urban development.

The demand for persons with graduate education in city and regional planning considerably exceeds the supply. Alumni of the Department are employed by public and private planning agencies at the local, state, regional, and national levels in all parts of the United States and in other countries. Others serve as consultants to business, industry, and government. Still others are engaged in teaching and research in academic institutions.

Undergraduate Honors Program in Urban and Regional Studies

Undergraduates reading for honors, or those certified by their departments as eligible for honors study, in departments participating in this program may enroll in an honors program in urban and regional studies. A student admitted to the program is required to take one or

more urban or regional oriented courses in his major and a minimum of two outside the major. The following list is illustrative of such courses: Anthropology 167, Urban Anthropology; Economics 163, Economic Development; Political Science 101, Public Administration; Political Science 133, Municipal Administration; Political Science 156, Urban Political Systems; Sociology 168, The City; Sociology 186, Population; Planning 106, Introduction to City and Regional Planning; Planning 160, Seminar in the History of Urban Development; Planning 176, Location and Space Economy; Planning 178, Regional Science Techniques; Geography 151, Urban Geography; Geography 152, Economic Geography; and Geography 162, Industrial Geography. In the event that no urban or regional oriented course is available in the major, a minimum of three such courses is required outside the major. In addition, a student accepted for the honors program in urban and regional studies is required to enroll for an honors seminar (Planning 199) and to write an honors paper in the major discipline which is oriented toward urban or regional studies.

Students achieving distinction in honors papers and maintaining a very high level of academic performance in their course work, in addition to graduating with honors awarded by their department will be further awarded a Certificate of Honors in Urban and Regional Studies.

Students interested in the honors program should see the chairman of the Department of City and Regional Planning, preferably in the spring semester of their sophomore year.

Courses for Graduates and Advanced Undergraduates

106 INTRODUCTION TO CITY AND REGIONAL PLANNING (3). Planning as a profession in the United States—its evolution; its role, nature and component activities; its future. Historical development of urban life and urban planning. *Fall.* Gakenheimer.

127 URBAN TRANSPORTATION PLANNING (3). Fundamentals of urban transportation patterns and problems. Approaches and techniques of analysis and planning. Evaluation of urban transportation systems. *Spring.* Gakenheimer

160 SEMINAR IN THE HISTORY OF URBAN DEVELOPMENT (3). Original research on the various aspects of urban history as they relate to an understanding of the social and physical nature of cities and their planning. *Spring.* Gakenheimer.

176 LOCATION AND SPACE ECONOMY (Econ. 120) (3). Discussion and evaluation of models generalizing the effects of space on economic and social activity. *Fall.* Knox.

178 REGIONAL SCIENCE TECHNIQUES (Econ. 121) (3). Discussion and evaluation of quantitative techniques useful in describing and projecting social and economic variables within urban areas and regions. *Spring.* Knox.

191A SOCIAL STATISTICS (Political Science 194A) (Sociology 191A) (3). For graduate students only. (See Sociology 191A for description.) *Fall.* Staff.

199 HONORS SEMINAR IN URBAN AND REGIONAL STUDIES (3). An overview of the subject matter and methods of investigation of the several social disciplines as these relate to the study of cities and regions. Development of inter-disciplinary research methods related to problems of investigation. Discussions supplemented by presentations of original papers prepared by the students. *Fall and spring.* Staff.

205 ENVIRONMENTAL ENGINEERING (3). Study of the broader aspects of public health, sanitation, and municipal engineering as they relate to the planning, development, and administration of communities. *Fall.* Okun.

209 PLANNING AND GOVERNMENT (Political Science 209) (3). An examination of the evolution of planning in the United States, the activities of planning agencies, planning problems at various levels of government, and planning activities in other countries. *Fall.* Daland.

215 THEORY OF PLANNING I (3). Concepts and logic of planning as a professional activity. Critical overview of current theories, leading the student to development of a personal philosophy applicable to his work as an urban or regional planner. The role of research in planning. Selected problems in planning theory. *Fall.* Hightower.

216 THEORY OF PLANNING II (3). Planning theory in the perspective of human thought. The philosophy of science and planning theory. Theories in social science related to planning theory. Quests for comprehensiveness, logical soundness and applicability in planning theory. Major defects in current planning theory. Guidelines for original contributions to improve theory of planning. *Spring.* Hightower.

220 COMMUNITY AND SITE DESIGN (6). A basic course for all entering students in theory and techniques of urban design, applied in team and individual projects. Supplementary instruction and design orientation is provided for students without previous design background. *Fall.* Webb, Kaiser, Cohn.

222 URBAN PLANNING ANALYSIS AND DESIGN (3). A study of the growth potential and development alternatives for an urbanizing region, including land use and transportation proposals, policies and implementing measures. *Spring.* Staff.

223 ADVANCED PLANNING PROBLEMS (3). Conduct of special study giving attention in depth to problems in urban analysis; or urban design; or regional planning; or urban simulation. *Fall.* Staff.

227 URBANISM SEMINAR (3). Analysis of trends in urbanism and urban living patterns, with particular attention to the way in which the physical development of cities and metropolitan areas may be related to these forces of change. *Fall.* Chapin.

228 METROPOLITAN ANALYSIS AND DEVELOPMENT (3). An examination of the special problems of planning for metropolitan areas with emphasis on the methods and content of area-wide analysis. Attention is also given to development programming and coordination of planning activities in metropolitan areas. *Spring.* Hemmens.

230 PLANNING LAW (3). Enabling legislation for planning, urban and rural zoning, subdivision and other land use controls, urban redevelopment law, housing legislation, and other techniques of plan effectuation. *Spring.* Green, Stipe.

232 PUBLIC INVESTMENT THEORY AND TECHNIQUES (ENVR. 282) (3). A test of new methods of economic, engineering, and governmental analysis in public investment planning. Techniques include those for converting broad community objectives into specific criteria to design public projects. *Fall.* Hufschmidt.

233 RESOURCE DEVELOPMENT LAW AND POLICY (ENVR. 283) (3). An examination of the law of resource use and development, its administration and underlying policies. Particular attention is given to water rights law, regulatory law, and natural resource administration. *Fall.* Heath.

234 PLANNING OF WATER RESOURCE SYSTEMS (ENVR. 284) (3). Application of systems analysis techniques to the planning of multi-unit, multipurpose water resource developments. Attention is also given to the relation of systems analysis technique to other public investments including transportation, housing, and urban development. *Spring.* Hufschmidt.

235 URBAN PLANNING METHODS AND TECHNIQUES (3). Examination of methods and techniques employed in carrying out basic planning studies and in developing the comprehensive plan for an urban area, emphasizing economic, population, and land use analyses. *Spring.* Chapin.

237 URBAN SPATIAL STRUCTURE (3). Evaluation of theories, models and research which seek to explain the spatial make-up of urban centers and regions and the dynamics of land development processes. *Fall.* Chapin, Hemmens.

238 DOCTORAL SEMINAR (3). Joint conferences of doctoral students and faculty for discussions of recent developments in planning research and research methodology. *Fall and spring.* Gakenheimer.

240 PLANNING INTERNSHIP (6). Prerequisites, four required courses in the City and Regional Planning curriculum. One summer's professional employment in an approved planning agency under competent supervision. *Summer session only.* Parker.

244 URBAN DEVELOPMENT GUIDANCE SYSTEMS (3) Theory, methodology, and practice of designing, analyzing, and programming urban developmental guidance systems that acknowledge and adapt to the political, social, and economic processes of urban development. *Spring.* Kaiser.

246 HOUSING AND URBAN RENEWAL (3). The housing market as distinguished from the market for other goods and services; housing market analysis; problems of production, financing, and governmental policies and programs in housing and renewal and the planning process. *Fall.* Stegman.

247 ISSUES IN HOUSING MARKET DYNAMICS (3). Prerequisite, Planning 246 or consent of instructor. Inquiries into problems of slum and blight formation, real property taxation and municipal finance, housing and race, low income housing programs, and the relationship between housing and poverty. *Spring.* Stegman.

248 URBAN TRANSPORTATION SEMINAR (3). Original research on significant technical, economic, social, and administrative aspects of urban transportation leading to a better understanding of the nature and problems of urban transportation and the methods of planning for it. *Fall.* Gakenheimer.

250 URBAN DESIGN SEMINAR (3). Analysis of historic and modern urban design examples and proposals at both city and project scale leading to a theoretical basis for urban design. *Fall.* Cohn.

310 PLANNING RESEARCH SEMINAR (3 each semester). Original research
311 or field work on selected planning problems under guidance of a member of the faculty. *Fall and spring.* Staff.

393 MASTER'S THESIS (3). Staff.

394 DOCTORAL DISSERTATION (3). Staff.

400 GENERAL REGISTRATION (0).

Non-Departmental Electives

Students enrolled in the program leading to the master's degree select a minimum of two non-departmental electives in conference with a faculty adviser. Such electives consist of courses offered for graduate credit which contribute to the area of concentration selected by the student.

DEPARTMENT OF CLASSICS

Professors: GEORGE KENNEDY, *Chairman,* J. P. HARLAND,[1] P. H. EPPS,[2] WALTER ALLEN, JR., T. R. S. BROUGHTON,[3] HENRY R. IMMERWAHR, BERTHE M. MARTI
Visiting Professor: WILLIAM F. STINESPRING[4]
Associate Professors: E. L. BROWN, H. M. MARTIN, JR., K. J. RECKFORD
Assistant Professor: PHILIP A. STADTER
Visiting Lecturer: WERNER FUCHS
Lecturer: IRIS W. FRIEDERICH
Instructors: W. W. DEGRUMMOND, DIRK FRENCH, J. B. GRAVES, W. C. WEST III
Teaching Fellow: JOHNSON B. CLINARD
Part-time Instructors: EMILY BARRETT, J. F. BARRETT, J. M. BLAKEY, DONNA CARROLL, TERRY-ELLEN COX, V. S. CRISAFULLI, T. B. CURTIS, N. P. GROSS, R. G. HALL, HARRIET KING, J. O. LOYD, I. R. MCDONALD, PHYLLIS SMITH, L. A. SUSSMAN, D. W. WADE
Graduate Assistants: DONNA CARROLL, T. B. CURTIS, MARGARET OGILVY, MARGARET SILVESTRE

GREEK

Students interested in an undergraduate major in Greek should consult the department by the last semester of their sophomore year. Students interested in a combined major in Latin and Greek should consult the Department of Classics. Two semesters of Greek, or Latin, or mathematics, or logic, or one semester of mathematics and one semester of logic must be taken by each candidate for the A.B. degree. For Greek as satisfying the language requirement for the A.B. degree see "General College," in Part III.

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1. Professor, Emeritus.
2. Kenan Professor Emeritus.
3. Paddison Professor of Classics.
4. Fall Semester, 1966.

Courses for Undergraduates

1,2 ELEMENTARY GREEK (3 each). *Fall and spring.* Immerwahr, Kennedy, Martin.

1-2 ELEMENTARY GREEK (6). Permission of the instructor required. Combined. *Spring.* West.

3,4 INTERMEDIATE GREEK[5] (3 each). *Fall and spring.* Brown, Stadter.

14 ELEMENTARY GREEK (3). For graduate students. *One semester.* Martin.

21 22 ADVANCED GREEK (3 each). Prerequisite, Greek 4 or equivalent. *Fall and spring.* Reckford, Martin.

80 HOMER, ILIAD (3). Prerequisite, Greek 21 or equivalent. *One semester.* Martin.

82 PLATO (3). Prerequisite, Greek 21 or equivalent. *One semester.* Brown.

88 GREEK NEW TESTAMENT (3). Prerequisite, Greek 3 or equivalent. *Spring.* Martin.

97 98 HONORS COURSE (6). *Fall and spring.* Staff.

Courses for Graduates and Advanced Undergraduates

107 GREEK COMPOSITION (3). Prerequisite, Greek 21. *One semester.* Martin.

108 EARLY GREEK POETRY (3). Prerequisite, Greek 31. *One semester.* Martin.

109 GREEK LITERATURE OF THE FIFTH CENTURY (3). Prerequisite, Greek 21. *One semester.* Reckford.

110 GREEK LITERATURE OF THE FOURTH CENTURY (3). Prerequisite, Greek 21. *One semester.* Kennedy.

158 GREEK NEW TESTAMENT (3). Prerequisite, Greek 21. *Spring.* Martin.

Courses for Graduates

201 GREEK EPIGRAPHY (3). *One semester.* Immerwahr.

211 GREEK LYRIC POETRY (3). *One semester.* Martin.

212 GREEK TRAGEDY (3). *One semester.* Immerwahr.

213 GREEK COMEDY (3). *One semester.* Reckford.

214 GREEK PHILOSOPHICAL LITERATURE (3). *One semester.* Immerwahr.

215 GREEK RHETORIC AND ORATORY (3). *One semester.* Kennedy.

216 GREEK HISTORICAL LITERATURE (3). *One semester.* Immerwahr.

217 HELLENISTIC POETRY (3). *One semester.* Brown.

218 LATER GREEK PROSE (3). *One semester.* Stadter.

251 HOMER (3). *Fall and spring.* Brown.

252 SOPHOCLES (3). *One semester.* Reckford.

253 THUCYDIDES (3). *One semester.* Immerwahr.

256 DEMOSTHENES (3). *One semester.* Kennedy.

5. Either of these courses may be taken separately for elective credit.

301 GREEK SEMINARS (3 each). *Fall and spring.* Immerwahr, Kennedy, Reck-
302 ford.
303

341 SPECIAL READING (3). *Fall and spring.* Immerwahr.

393 MASTER'S THESIS (3). *Fall and spring.* Immerwahr, Kennedy, Reckford, Martin, Brown, Stadter.

394 DOCTORAL DISSERTATION (3). *Fall and spring.* Immerwahr, Kennedy, Reckford, Martin, Brown, Stadter.

400 GENERAL REGISTRATION (0).

For additional courses see below under Courses Not Requiring a Reading Knowledge of the Greek or Latin Language and under Comparative Literature. Attention is called also to courses in Linguistics and ancient history.

LATIN

Students interested in an undergraduate major in Latin should consult the department by the last semester of their sophomore year. A minimum of six courses is required in addition to Latin 21. Students interested in a combined major in Latin and Greek should consult the Department of Classics. Two semesters of Greek, or Latin, or mathematics, or logic, or one semester of mathematics and one semester of logic must be taken by each candidate for the A.B. degree.

Courses for Undergraduates

1-2 ELEMENTARY LATIN (3 each). *Fall and spring.* Instructors.

3X INTERMEDIATE LATIN (3). For students who have had two years of Latin in high school but find Latin 3 too difficult. The course begins with a thorough review of elementary Latin. *Fall and spring. Five hours a week, 3 credits.* Instructors.

3-4 INTERMEDIATE LATIN (3 each). 3: Cicero. 4: Livy and Ovid. Freshman and sophomore elective. *Fall and spring.* Friederich, Graves; instructors.

14 RAPID READING IN LATIN (3). May be taken with or without credit by those who wish to gain or refresh ability to read Latin prose. Class needs will determine selection of authors. *Fall.* West.

21 ADVANCED LATIN (3). Prerequisite, three or four units of high school Latin or Latin 3-4. Freshman and sophomore elective. *Fall and spring.* Friederich, French, Graves, West.

22 ADVANCED LATIN, CATULLUS (3). Prerequisite, three or four units of high school Latin or Latin 3-4. Freshman and sophomore elective. *Fall and spring.* deGrummond, French.

51 CICERO'S LETTERS (3). Prerequisite, Latin 21. *Spring.* Martin.

52 ROMAN SATIRE (3). Prerequisite, Latin 21. *One semester.* Martin.

53 LATIN LYRIC POETRY (3). Prerequisite, Latin 21. *Spring.* Stadter.

54 THE ROMAN HISTORIANS (3). Prerequisite, Latin 21. *One semester.*

55 PLAUTUS AND TERENCE (3). Prerequisite, Latin 21. *Fall.* Reckford.

56 OVID (3). Prerequisite, Latin 21. *One semester.* Kennedy.

57 LUCRETIUS (3). Prerequisite, Latin 21. *One semester.* Stadter.

58 VIRGIL (3). Prerequisite, Latin 21. *Fall.* Brown.

59 PETRONIUS (3). Prerequisite, Latin 21. *One semester.* Marti.

60 PLINY'S LETTERS (3). Prerequisite, Latin 21. *One semester.* Marti.

71 COURSE FOR TEACHERS (3). Prerequisite, Latin 21. *On application.* deGrummond.

97 HONORS COURSE (6). *Fall and spring.* Staff.
98

Courses for Graduates and Advanced Undergraduates

107 LATIN COMPOSITION (3). Prerequisite, Latin 21. *One semester.* Allen.

114 POETS OF THE REPUBLIC (3). Prerequisite, Latin 21. *One semester.* Broughton.

115 PROSE WRITINGS OF THE REPUBLIC (3). Prerequisite, Latin 21. *One semester.* Broughton.

123 PROSE WRITINGS OF THE EMPIRE (3). Prerequisite, Latin 21. *One semester.* Kennedy.

124 POETS OF THE EMPIRE (3). Prerequisite, Latin 21. *One semester.* Marti.

130 MEDIEVAL LATIN (3). Prerequisite, Latin 21. *Spring.* Marti.

131 LATIN WRITERS OF THE RENAISSANCE (3). Prerequisite, Latin 21. Reading of selections from Petrarch, Erasmus, or other authors of the period. *One semester.* Stadter.

Courses for Graduates

202 LATIN EPIGRAPHY (3). *One semester.* Broughton.

203 LATIN PALEOGRAPHY (3). *One semester.* Marti.

221 FRAGMENTS OF EARLY LATIN POETRY (3). *One semester.* Marti.

222 ROMAN HISTORICAL LITERATURE (3). Study of Sallust, Caesar, Suetonius or the minor historians of the empire. *One semester.* Allen.

224 ROMAN DRAMATIC LITERATURE (3). Study of the comedies of Plautus and Terence or the tragedies of Seneca. *One semester.* Broughton.

225 ROMAN LYRIC AND ELEGIAC POETRY (3). Study of the forms of lyric and elegiac poetry with special attention to Catullus, Horace, Tibullus, or Propertius. *One semester.* Reckford.

226 ROMAN SATIRE (3). Study of the development of satiric form with special attention to Horace or Juvenal. *One semester.* Reckford.

261 CICERO: POLITICAL CAREER (3). *Fall.* Allen.

262 CICERO: LITERARY CAREER (3). *Spring.* Allen.

263 LUCRETIUS (3). *Spring.* Broughton.

264 VIRGIL (3). *One semester.* Marti.

265 LIVY (3). *One semester.* Broughton.

266 OVID (3). *One semester.* Kennedy.

270 PETRONIUS (3). *One semester.* Reckford.

271 LUCAN (3). *One semester.* Marti.

274 TACITUS (3). *Fall.* Broughton.

301 LATIN SEMINARS (3 each). *Fall and spring.* Marti, Broughton, Kennedy.
302
303
304

341 SPECIAL READING (3). *Fall and spring.* Broughton, Kennedy, Marti.

393 MASTER'S THESIS (3). *Fall and spring.* Broughton, Kennedy, Marti, Brown, Martin, Reckford, Stadter.

394 DOCTORAL DISSERTATION (3). *Fall and spring.* Broughton, Kennedy, Marti, Brown, Martin, Reckford, Stadter.

400 GENERAL REGISTRATION (0).

CLASSICS IN ENGLISH

(Courses Not Requiring a Reading Knowledge of the Greek or Latin Language)

The following courses in classical literature and civilization are especially designed to supply the necessary foundation for those who, without a reading knowledge of the ancient languages, wish a broader culture, or plan to specialize in modern literature, history, the arts, etc. When properly approved, they will be allowed to count as part of the major requirement in other departments. They may be taken also to satisfy the requirements of a minor in literature. See also under Comparative Literature.

Courses for Undergraduates

31 GREEK LITERATURE (3). Freshman and sophomore elective. Not open to juniors and seniors or those who have taken Classics 61. A survey of the major authors. *Fall.* Reckford.

32 LATIN LITERATURE (3). Freshman and sophomore elective. Not open to juniors and seniors or those who have taken Classics 62. A survey of the major authors. *Spring.* Kennedy, Reckford.

61 GREEK LITERATURE (3). For juniors and seniors. Not open to those who have had Classics 31. A study of the major authors and their contributions to modern thought and literary forms. *Fall.* Martin, French.

62 LATIN LITERATURE (3). For juniors and seniors. Not open to those who have had Classics 32. A study of the major authors and their contributions to modern thought and literary forms. *Spring.* Stadter, French.

75 GREEK CIVILIZATION (3). The achievements of the ancient Greeks and their contributions to the modern world in art, architecture, medicine, science, politics, education, theatre, religion, etc. *Fall.* West.

76 ROMAN CIVILIZATION (3). Roman public and private life, manners, and ideals; buildings, living conditions, commerce, religion, government, art, etc. *Fall.* Allen.

77 GREEK MYTHOLOGY (3). An introduction to mythology, followed by a study of the various cycles of myths which developed in ancient Greece. Illustrations from sculpture and vase-paintings. *Spring.* Brown.

85 ARCHAEOLOGY OF THE BIBLE (3). Biblical history in the light of excavations in Palestine and the ancient Near East. The art and civilization of the peoples of the Old Testament. *One semester.*

91 ARCHAEOLOGY OF THE NEAR EAST (3). The art and architecture of Egypt, Mesopotamia, and the rest of the ancient Near East. *Fall.* Stinespring.

92 GREEK ARCHAEOLOGY (3). The historical development of the art of Greece from the Bronze Age through the historical period. Greek architecture, painting, and the other arts. *Fall.* Fuchs.

93 GREEK SCULPTURE (3). The development of Greek sculpture as one phase of the civilization of the ancient Hellenes. *Spring.* Fuchs.

95 ANCIENT ARCHITECTURE (3). The architecture of Egypt, Mesopotamia, Greece, and Rome, with emphasis on the contributions made by these lands to modern architecture. *One semester.* Brown.

97 ROMAN ART (3). The arts of Rome, particularly architecture, sculpture, and painting, preceded by a survey of Etruscan and Hellenic art and their influence on Rome. *One semester.* Brown.

Courses for Graduates and Advanced Undergraduates

103 GREEK AND ROMAN EPIC (3). Reading of the ancient epics, with emphasis on Homer and Virgil. Structure of the poems, history of epic as a literary form, the poems as expressions of the spirit of their ages. *Spring.* Allen.

107 GREEK DRAMATIC LITERATURE (3). Reading of about fifteen Greek plays. Origin and growth of the Greek theatre and drama; Aristotle's *Poetics;* literary quality of the plays; religious, social, and political ideas of the fifth century B.C. *Fall.* Allen.

109 GREEK AND ROMAN HISTORICAL LITERATURE (History 109) (3). The study in English translation of selections from Herodotus, Thucydides, Livy, Tacitus, and others with consideration of their literary qualities and their reliability as historians. *Spring.* Allen.

114 GREEK AND ROMAN COMEDY (3). A comparative study of the surviving works of Aristophanes, Menander, Plautus, and Terence, with attention to aspects of ancient production and influence on modern comedy. *Fall.* Stadter.

176 ROMAN CIVILIZATION (3). *One semester.* Allen.

191 GREEK SCULPTURE (3). Prerequisites, Classics 75, 92, or 93. *Spring.* Fuchs.

192 GREEK ARCHITECTURE (3). Prerequisites, Classics 75, 92, or 93. *Fall.* Fuchs.

193 GREEK PAINTING (3). Prerequisites, Classics 75, 92, or 93, or Greek History. *One semester.*

195 THE AEGEAN CIVILIZATION (3). *One semester.*

197 THE ARCHAEOLOGY OF ROME (3). Prerequisites, Classics 75, 92, or 93, or Roman History. *One semester.*

CURRICULUM IN COMPARATIVE LITERATURE

W. P. FRIEDERICH,[1] *Chairman.* Advisory Committee: Professors H. E. DAVIS, J. HARDRÉ, H. W. REICHERT, J. R. GASKIN, C. C. HOLLIS, G. K. KENNEDY; Associate Professor W. J. DESUA

The Curriculum in Comparative Literature offers students an opportunity to become familiar with the work of the leading figures of Western literature and thereby to acquire a particularly broad and liberal education. An undergraduate major in comparative literature consists of eight courses, two of which must be in the classics (e.g., 103, 109, or 114) and two must be chosen from among 170, 175, 177, 180, 181 or 182. In their major and their minor, students are urged to concentrate on two or three literatures and to develop at least one foreign literature close to the 100 level. They *must* see Mr. Friederich at the very beginning of their junior year.

LITERATURE IN ENGLISH TRANSLATION

Courses for Undergraduates

61 GREEK LITERATURE (3). A survey of the major authors and their contributions to modern thought and literary forms. *Fall.* Stadter.

62 LATIN LITERATURE (3). A survey of the major authors and their contributions to modern thought and literary forms. *Spring.* Stadter, French.

63 LITERARY ASPECTS OF THE BIBLE (Religion 63) (3). The Old and New Testament will be taken up in alternate years. *Spring.* Fitzgerald.

70 RUSSIAN PROSE LITERATURE OF THE NINETEENTH CENTURY (3). Pushkin, Gogol, Turgenev, Dostoevski, and Tolstoi. *Fall.*

74 RUSSIAN LITERATURE IN THE SOVIET PERIOD (3). A survey of influential Russian writers and literary problems from the Revolution to the present. Lectures and readings in English, with selected readings in Russian for Russian majors. *Spring.* Mihailovich.

97 HONORS COURSE (3). Required of all students reading for honors in Comparative Literature. Engstrom.

Courses for Graduates and Advanced Undergraduates

107 GREEK DRAMATIC LITERATURE (3). Reading of about fifteen Greek plays. Origin and growth of the Greek theatre and drama; Aristotle's *Poetics;* literary quality of the plays; religious, social, and political ideas of the fifth century B.C. *Fall.* Allen.

117 CERVANTES (3). A study of Cervantes' *Don Quixote* and the *Exemplary Novels. Fall.* Stoudemire.

135 FRENCH CLASSICISM (3). A survey of the origins of classicism in France. The plays of Corneille, Molière, Racine, and their contemporaries. The decline of classicism. *Spring.* Wiley.

137 SURVEY OF GERMAN LITERATURE (3). An outline emphasizing the masterpieces around 1200, the works of the preclassic and classic periods, and contemporary literature. *Fall.* Reichert.

1. Kenan Professor.

155 GOETHE (3). Goethe's life and work placed against the background of European classicism and romanticism and the Napoleonic Wars. *Fall.* Friederich.

156 DANTE (3). The beginning of Italian literature. The *Vita Nuova* and *The Divine Comedy. Spring.* DeSua.

187 INTRODUCTION TO MODERN SCANDINAVIAN LITERATURE (3). Prerequisite, junior standing or higher. An introduction to nineteenth-century and twentieth-century Scandinavian literature with particular reference to the work of Ibsen and Strindberg, and modern fiction. *Fall.* Bergholz.

COMPARATIVE COURSES

Courses for Graduates and Advanced Undergraduates

103 GREEK AND ROMAN EPICS (3). Reading of the ancient epics, with emphasis on Homer and Virgil. Structure of the poems, history of the epic as a literary form, the poems as expressions of the spirit of their ages. *Spring.* Allen.

109 GREEK AND ROMAN HISTORICAL LITERATURE (3). The study in English translation of selections from Herodotus, Thucydides, Livy, Tacitus, and others, with consideration of their literary qualities and their reliability as historians. *Spring.* Allen.

114 GREEK AND ROMAN COMEDY (3). A comparative study of the surviving works of Aristophanes, Menander, Plautus, and Terence, with attention to aspects of ancient production and influence on modern comedy. *Fall.* Stadter.

141 LITERARY CRITICISM (3). A study of the major documents of literary criticism from Plato to Dryden, with emphasis on Aristotle's *Poetics* and its influence on Renaissance critical thought. *Fall.* Hardison.

142 PHILOSOPHY IN LITERATURE (3). A study of selected literary classics from ancient times to the present, emphasizing changing approaches to such perennial problems as the nature and destiny of man; evil, freedom, and tragedy. *Fall.* Shea.

152 HISTORY AND LITERATURE OF THE THEATRE II (3). Renaissance through Romanticism. *Spring.* Graves.

153 HISTORY AND LITERATURE OF THE THEATRE III (3). Modern. *Fall.* Patterson.

170 THE MIDDLE AGES (3). The literature of the European Middle Ages, in Latin and the vernacular languages, from Boethius to Dante. *Fall.* Wenzel.

175 RENAISSANCE AND BAROQUE (3). The period from Dante to Calderón with special emphasis on Italian and Spanish contributions to French, English, and German letters. *Fall.* Friederich.

177 CLASSICISM AND PRE-ROMANTICISM (3). The period from the French school of 1660 to the German *Sturm and Drang,* with special emphasis on French and English contributions. *Spring.* Friederich.

180 ROMANTICISM (3). Prose and poetry of representative Romanticists in Britain, France, Italy, and America, with special consideration of the manifestoes and critical writings. *Fall.* DeSua.

181 REALISM AND SYMBOLISM (3). The main post-Romantic movements of the nineteenth century in Western Europe and America, with some attention to the Russian novelists. *Spring.* DeSua.

182 TWENTIETH-CENTURY LITERATURE (3). The works and theories of some of the significant literary movements of this century: surrealism, futurism, imagism. Consideration of modern developments such as the New Criticism and the impact of existentialism on literature. *Fall.* DeSua.

201 PROBLEMS AND METHODS IN COMPARATIVE LITERATURE (3). The growth of comparative scholarship since 1800. Bibliography, Thematology, Influences, Parallelisms, *Zeitgeist,* and other modes of investigation. *Spring.* Friederich.

240 READING COURSE (3). *One lecture hour a week, fall or spring.* Friederich.

310a,b SEMINAR (3). 310a Renaissance or Baroque; 310b Classicism or Pre-Romanticism. (Offered in alternate years.) Friederich.

393 MASTER'S THESIS.

394 DOCTORAL DISSERTATION (3).

400 GENERAL REGISTRATION (0).

CREATIVE WRITING

See offerings in Department of Dramatic Art, Department of English, and Department of Radio, Television, and Motion Pictures.

DEPARTMENT OF DRAMATIC ART

Professors: H. E. DAVIS, *Chairman,* J. W. PARKER, EARL WYNN, WESLEY H. WALLACE
Visiting Professor: ERIC F. PRICE[1]
Associate Professors: KAI JURGENSEN, FOSTER FITZ-SIMONS, T. M. PATTERSON, RUSSELL GRAVES, J. S. CLAYTON,[2] WILLIAM HARDY
Assistant Professors: R. E. SCROGGS, JR., TOM REZZUTO, JR., ROBERT J. GWYN
Instructors: FRANK E. BEAVER, RALPH G. DENNIS, JOSEPH W. TALAROWSKI
Part-time Instructor: AMANDA MEIGGS
Lecturers: IRENE S. RAINS, DONALD B. UPHAM, GEORGE B. GRILLS, MARK A. SCHOENBERG
Graduate Assistants: E. STANFORD ESKRIDGE, ROBERT HARDISON, CAMILLE HARDY, MICHAEL C. HARDY, MELVIN S. HUTTO, HITOSHI SATO, JANET SCHOLZ, JAMES S. SLAUGHTER III, THOMAS WILLIAM O. SMITH

The Bachelor of Arts Program

The curriculum for the Bachelor of Arts degree in Dramatic Art is a two-year program, based on the completion of the General College requirements[3] for this degree (see "General College," page 52), or their equivalent. The program is designed to provide: (a) foundation

1. Mahlon K. Jordan Visiting Professor.
2. Absent on leave, September 1, 1966, to August 31, 1967.
3. Dramatic Art 30, 31, 51, and 57 are available as General College electives and the student who intends to pursue the Bachelor of Arts program in Dramatic Art is urged to include these courses as electives in his General College program.

courses in dramatic literature and the theatre arts for students who intend to teach or direct in high school, college or community theatre; (b) intensive groundwork in the theory and practice of drama and theatre for students who plan to pursue graduate study in the scholarly, technical, or creative aspects of the field; and (c) elective courses for students from other departments who wish to broaden and enrich their liberal arts background.

Requirements for the A.B. Major: The candidate for the Bachelor of Arts degree in Dramatic Art must complete during the junior and senior years twenty courses, distributed as follows:

Major Courses (seven to ten)

Required (minimum of seven courses) : 40, 64a, 64b, 150; 95 (195) or 153, 151 or 152, and 51 or 155 or 156. Elective: up to three additional courses in Dramatic Art.

Allied Courses

Five to eight courses in allied departments (Division of Humanities or Division of Fine Arts) .

Non-allied Courses

Five to eight courses in non-allied departments (Division of Natural Sciences or Division of Social Sciences) .

Note: The State of North Carolina does not grant a teacher's certificate in Dramatic Art. Therefore, Dramatic Art students wishing to prepare themselves for high school teaching and directing must choose a "double major" program, receiving a certificate in the second major of their choice, which may be selected from a wide variety of other departments in the University.

The Bachelor of Fine Arts Program

The curriculum for the Bachelor of Fine Arts degree in Dramatic Art is a four-year academic program designed to provide (a) foundation courses in the theatre arts for students who intend to enter the professional theatre or related fields; (b) opportunity for such students to gain apprenticeship experience in the skills and practices of the theatre arts, with special emphasis in one area of his choice, namely Acting-Directing, Design-Technical, or Playwriting. The B.F.A. must meet a minimum number of course requirements in the General College Curriculum (see "General College," page 53), and must also take certain required major courses in the first two years. It is therefore necessary for the candidate for this degree to elect the B.F.A. program at the beginning of the freshman year.

Requirements for the B.F.A. Major: The candidate for the B.F.A. degree in Dramatic Art must pursue the following four-year program:

First Two Years (General College)

During the first two years the B.F.A. candidate must complete twenty courses, plus four hours of physical education. The required General College courses are: English 1, 2, 21; foreign language 3, 4, 21 (or 1, 2, 3, 4); Modern Civilization 1, 2; two natural sciences (one biological and one physical); two courses in Greek, or Latin, or mathematics or logic (or one mathematics and one logic); four hours of physical education. Required courses in Dramatic Art are: Dramatic Art 31m and 40m (fall semester, freshman year); Dramatic Art 30m and 64a (spring semester, freshman year); Dramatic Art 51m and 64b (fall semester, sophomore year); Dramatic Art 57 and 63 (spring semester, sophomore year).

At the beginning of the sophomore year the B.F.A. candidate must select an area of specialization, and in consultation with departmental advisers, plan and execute one or more individual projects in this area of concentration. The three areas of specialization from which he may choose are: Acting-Directing, Design-Technical, or Playwriting. The individual sophomore project will be evaluated by the department, to determine whether the candidate will be allowed to continue in the B.F.A. program, or advised to change to another program of study, e.g., the B.A. program.

Junior-Senior Years (Upper College)

During the junior and senior years the candidate for the Bachelor of Fine Arts degree in Dramatic Art must complete twenty courses, distributed as follows: major courses, eight to nine; allied courses (from Fine Arts or Humanities departments), four to five; non-divisional courses (from Natural or Social Sciences), four to five.

Four-Year Course Program

Within the four-year program, the candidate for the Bachelor of Fine Arts degree in Dramatic Art must meet the following major course requirements: First two years: 30m, 31m, 40, 51, 57, 63, 64a, 64b; Second two years: the following dramatic literature courses: 95, 150, 151, 152, 153. According to the student's chosen area of specialization, the following Dramatic Art courses will also be required: (a) Acting-Directing, 52m, 60, 85m, 86m, 155; (b) Design-Technical, 60, 64c, 85m, 86m, 155, 166, 177; (c) Playwriting, 60, 78, 85m, 86m, 155, 156, 179. (Allied electives should be chosen, with the help of the departmental adviser, according to the student's area of specialization.)

Advanced Programs

Programs of study leading to the degrees of Master of Arts and Licentiate in Dramatic Art are offered by the Department through the

Graduate School. For information on these programs, see the Graduate School catalogue.

Admission of Freshman Women

A limited number of women may be admitted each academic year at freshman level as majors in the B.F.A. program in Dramatic Art. Application for admission should be made directly to the Admissions Office, and qualified applicants will be referred to the Department of Dramatic Art for final admission.

Courses for Undergraduates

30 30m INTRODUCTION TO THE THEATRE (3). General College elective, open to juniors and seniors. Survey of the history and literature of the theatre from the earliest times to the present. Lectures, demonstrations and the reading of selected plays. *Fall and spring.* Jurgensen.

31 31m THEATRE IN THE MODERN WORLD (3). General College elective, open to juniors and seniors. Survey of the basic principles and underlying philosophy of drama in the contemporary theatre, with emphasis on its esthetic, social, and technical aspects. Lectures, demonstrations, and the reading of selected plays. *Fall and spring.* Fitz-Simons, Graves, Schoenberg, Talarowski.

40 VOICE TRAINING (3). Open to majors in dramatic art, and in radio, television, and motion pictures only. Fundamental principles underlying the effective use of the voice and speech in the performance arts. *Fall.* Meiggs.

50 DIRECTED READINGS (3). Limited to graduate transfer students in dramatic art who need to make up deficiencies in dramatic literature. Assigned readings and reports in a selected area of dramatic literature, or in theatre history. *Summer session only.*

51 51m ACTING (3). General College elective, open to juniors and seniors. Introductory course in the principles, and practice of stage performance. *Fall and spring.* Jurgensen, Parker, Schoenberg, Meiggs.

52m ADVANCED ACTING (3). A continuation of the study of the principles and practice of stage performance limited to upperclassmen in the B.F.A. program in Dramatic Art. *Fall.*

57 THE DANCE (3). General College elective, open to juniors and seniors. Foundation course in the history of the dance and its cultural relationships to other arts. Lectures and laboratory training in basic forms of narrative and lyric movement. *Fall and spring.* Fitz-Simons.

58 DEVELOPMENT OF BROADCASTING, PART I (R-TV-MP 58) (3). *Fall and spring.* Wallace.

60 PRODUCTION FUNDAMENTALS (R-TV-MP 60) (3). *Fall and spring.* Wynn, Upham, Grills, Beaver.

63 PLAY DIRECTING (3). Prerequisite, Dramatic Art 51 or comparable experience. Permission of the instructor is required. *Spring.* Fitz-Simons. Note: An undergraduate student may not offer both 63 and 190 for degree credit.

64abc TECHNICAL METHODS I, II, III (3 each). Introduction to equipment and procedures in the design and execution of plans for the scenery, lighting and costuming of theatre presentations. One unit (a) will concentrate on

scenery, one unit (b) on lighting, and one unit (c) on costuming. All three units will be handled as a single class each semester. *One lecture and four laboratory hours per week, plus assigned crew work with Carolina Playmaker productions, fall and spring.* Rezzuto, Graves, Rains.

78 WRITING FOR RADIO, TELEVISION, AND MOTION PICTURES, PART I (R-TV-MP 78) (3). *Fall and spring.* Hardy, Dennis.

81 NON-FICTION WRITING (R-TV-MP 81) (3). Open to dramatic art and radio, television, and motion pictures majors only. *Fall and spring.* Dennis.

85m LABORATORY PROJECTS I (3). Required of and limited to senior students in the Bachelor of Fine Arts program. Problems in all aspects of theatre presentation. *Fall.* Staff.

86m LABORATORY PROJECTS II (3). Required of and limited to senior students in the Bachelor of Fine Arts program. A continuation of intensive presentation projects as a sequence to Laboratory Projects I. *Spring.* Staff.

95 ENGLISH AND AMERICAN DRAMA OF THE TWENTIETH CENTURY (English 95) (3). A survey of movements and writers from 1900 to the present. *Fall and spring.*

97 98 COURSES FOR HONORS (6). Reading and preparation for essay and other Honors projects. Staff.

Courses for Graduates and Advanced Undergraduates

150 SHAKESPEARE N THE THEATRE (3). A study of the literary, stage history, and production problems of representative plays. *Fall and spring.* Jurgensen.

151 HISTORY AND LITERATURE OF THE THEATRE I (3). A study of dramatic history and dramatic literature, from the Classical Greek through the Medieval period. *Fall.* Talarowski.

152 HISTORY AND LITERATURE OF THE THEATRE II (Comparative Literature 152) (3). A study of theatre history and dramatic literature from the Renaissance through the Romantic period. *Spring.* Talarowski.

153 HISTORY AND LITERATURE OF THE THEATRE III (Comparative Literature 153) (3). A survey of theatre history and significant dramatic literature of the modern period. *Fall.* Patterson.

155 PLAYWRITING I (3). A practical course in the writing of the stage play. *Fall and spring.* Patterson.

156 PLAYWRITING II (3). The principles of dramatic construction and practice in the writing of one-act plays. *Fall and spring.* Patterson.

159 DEVELOPMENT OF BROADCASTING, PART II (R-TV-MP 159) (3). Prerequisite, R-TV-MP 58. *Fall.* Wallace.

166 STAGE DESIGN (3). General principles of visual design as applied to scenery, lighting and costumes in the theatre. Instruction in standard techniques of planning and rendering. *One lecture and four laboratory hours a week, spring.* Rezzuto.

173 RESEARCH PROJECTS IN THE MASS MEDIA (R-TV-MP 173) (3). Open to radio, television, and motion pictures and dramatic art majors only. *Spring.* Gwyn.

176 RADIO PRODUCTION ARTS (R-TV-MP 176) (4). Open to radio, television, and motion pictures and dramatic art majors only. *Fall.* Gwyn.

177 TELEVISION PRODUCTION ARTS (R-TV-MP 177) (3). Open to radio, television, and motion pictures and dramatic art majors only. *Fall and spring.* Clayton, Price.

179 WRITING FOR RADIO, TELEVISION, AND MOTION PICTURES, PART II (R-TV-MP 179) (3). Open to radio, television, and motion pictures and dramatic art majors only. *Spring.* Hardy.

182 MOTION PICTURE AND TELEVISION PERFORMANCE (R-TV-MP 182) (3). Open to radio, television, and motion pictures and dramatic art majors only. *Fall.* Wynn.

187 MOTION PICTURE PRODUCTION ARTS (R-TV-MP 187) (4). Open to radio, television, and motion pictures and dramatic art majors only. *Spring.* Scroggs, Wynn.

190 THEORY AND PRACTICE OF PLAY DIRECTING (3). Under special conditions, this course may be substituted for Dramatic Art 63 or 201 with permission of the Department. *Summer session only.*

195 ENGLISH AND AMERICAN DRAMA OF THE TWENTIETH CENTURY (English 195) (3). *Summer session only.*

Courses for Graduates

200 TECHNICAL DIRECTION (3). Prerequisites, Dramatic Art 64, 65, and 66, or equivalent training in technical practice. (1968-1969 and alternate years.) *Spring.* Davis.

201 PLAY DIRECTING, ADVANCED (3). Prerequisite, Dramatic Art 61 or equivalent training. *Fall.* Davis.

202 STAGING METHODS (3). Prerequisites, Dramatic Art 200 and a course in freehand drawing or equivalent experience. (1967-1968 and alternate years.) *Spring.* Davis.

203 TECHNICAL PROBLEMS IN PLAYWRITING (3). Prerequisite, Dramatic Art 155 or 156. *Fall and spring.* Patterson.

210 THEATRE ADMINISTRATION (3). Open to selected dramatic art majors only. *Fall.* Parker.

295 ENGLISH AND AMERICAN DRAMA OF THE TWENTIETH CENTURY (English 295) (3). A survey of dramatic movements and writers from 1900 to present. *Fall.*

299 THEATRE WORKSHOP (2-8 hours credit, not toward a degree). Open to a limited number of qualified students who have already secured a bachelor's or master's degree, with special permission of the Chairman of the Department. Advanced practical work in one selected department of theatre technique. *Fall and spring.* The staff of The Carolina Playmakers.

340 SPECIAL READINGS (3). Research in a special field of Modern Drama or the History of the Theatre. This course may not be repeated for credit. *Time to be arranged.* Davis; staff.

390 SEMINAR IN DRAMATIC THEORY AND CRITICISM (3). A study of the major writers on dramatic theory and criticism from Aristotle to the present. Required of all graduate majors. *Fall and spring.* Talarowski.

393 MASTER'S THESIS. *Fall and spring.* Staff.

395 SEMINAR IN MODERN DRAMA (English 395) (3). Research in dramatic literature, theatrical history, and staging methods. *Spring.*

400 GENERAL REGISTRATION (0).

DEPARTMENT OF ECONOMICS

Professors: R. W. PFOUTS, *Chairman,* D. D. CARROLL,[1] C. P. SPRUILL,[2] CLARENCE HEER,[1] M. S. HEATH,[3] D. J. COWDEN, R. S. WINSLOW, P. N. GUTHRIE, O. T. MOUZON, J. C. D. BLAINE, C. E. PHILBROOK, M. W. LEE, H. HOTELLING,[1] J. C. INGRAM, D. T. LAPKIN, J. H. BLACKMAN

Associate Professors: W. HAMBURGER, D. B. JOHANNESEN, R. E. GALLMAN, D. G. BROWN,[4] D. MCFARLAND, E. F. RENSHAW,[5] J. W. LEASURE

Assistant Professors: J. L. MURPHY, T. J. ORSAGH, V. J. TARASCIO, D. R. APPLEYARD

Lecturers: F. GUTMANN,[6] W. L. IVEY, J. A. WILDE, G. W. DOUGLAS, H. W. KNOX

Part-time Instructors: B. C. BRUSH, T. D. BUNCE, C. S. CHANDR-RUANG-PHEN, J. M. CREWS, W. P. FIELD, JR., S. R. FINKEL, R. E. HARPER, J. C. POINDEXTER, R. PRINCE, N. L. RUCKER, J. E. VANDERWALKER

Teaching Fellows: L. V. ASCH, F. J. NOWAK

The Department of Economics offers courses leading to an A.B. degree with a major in economics through the College of Arts and Sciences. The M.A. and Ph.D. degrees in economics are offered through the Graduate School. Courses in economics are elected by and/or required of students in other departments and schools.

Undergraduate Major

Opportunities for Economics Majors: The courses leading to an A.B. degree with a major in economics comprise a large area of inquiry into the problems and structure of the economic segment of society. The curriculum available provides the opportunity to achieve one or more of the following objectives.

1. General education for intelligent citizenship with special emphasis upon the development of the understanding of the principles and problems of modern economic life.
2. Preparation for private employment. In pursuing this objective, supplementary courses in business administration may be selected and integrated with the student's program.
3. Preparation for governmental employment.
4. Preparation for postgraduate work leading to the degrees of M.A. and Ph.D. in economics.
5. Specialized combination undergraduate programs such as prelaw and international studies, and either of the ROTC programs available at the University.

Requirements: For the degree of A.B. with a major in economics:

1. Students should have completed the work of the General College, including Economics 31 and Economics 32 with grades of *C* or

1. Kenan Professor, Emeritus.
2. Alumni Distinguished Professor of Economics.
3. Professor, Emeritus.
4. Absent on leave, 1966-1967.
5. Resigned, August 31, 1966.
6. Lecturer, Emeritus.

better in each course. In addition, Mathematics 1 and 2 or 15 and 31 are required; and students are encouraged to complete Mathematics 31. When qualified, students should register for Mathematics 15 and 31.

2. In the College of Arts and Sciences a minimum total of twenty (20) courses (i.e., 60 semester hours) must be selected in accordance with the following distribution:

   A. Seven (7) full semester courses in economics (in addition to Economics 31 and 32) including Economics 70, Economics 131 and Economics 132 are required, and eight (8) full semester courses in economics may be taken. The remaining four (4) or five (5) courses must be taken from at least three (3) of the following areas:

      (1) International Economics (Inter-Departmental International Studies Group)
         (a) Economics 91-Resources and Industries
         (b) Economics 111-International Resources and National Policy
         (c) Economics 161-International Economics
         (d) Economics 163-Economic Development
         (e) Economics 195-Comparative Economic Systems

      (2) Labor
         (a) Economics 191-Introduction to the Labor Problem
         (b) Economics 192-Collective Bargaining
         (c) Economics 193-History of the Labor Movement
         (d) Economics 194-Social Insurance

      (3) Public Policy
         (a) Economics 141-Public Finance
         (b) Economics 143-Problems in State and Local Finance
         (c) Economics 145-Industrial Organization
         (d) Economics 151-The American Transportation System
         (e) Economics 152-Transportation as a Regulated Industry
         (f) Economics 153-Public Utilities
         (g) Economics 197-Government and Business

      (4) Quantitative
         (a) Economics 74-General Accounting
         (b) Economics 171-Fundamentals of Statistical Theory
         (c) Economics 172-Intermediate Statistics
         (d) Economics 173-Quality Control by Statistical Methods
         (e) Economics 174-Econometrics

(5) Theory and History
   (a) Economics 135-Economic Development in the United States
   (b) Economics 136-Economic Development in Western Europe
   (c) Economics 182-Mathematical Economics
   (d) Economics 183-Advanced Mathematical Economics
   (e) Economics 185-Business Cycles

B. From six (6) to seven (7) full semester allied courses (18 to 21 semester hours) within the Division of Social Sciences are required. With the permission of the Chairman of the Department, a maximum of three (3) business administration courses with a grade of *C* or better on each may be counted as allied courses if they constitute a part of a well-developed and integrated program of study. The combined maximum number of courses in economics and business administration shall not exceed ten (10) (i.e., 30 semester hours).

C. From six (6) to seven (7) full semester courses within the Divisions of Humanities, Fine Arts, and Natural Sciences are required.

3. Course distribution in 2 above can be summarized briefly as follows: The required distribution of twenty (20) College of Arts and Sciences courses is seven (7) courses in Economics; six (6) allied courses in the Division of Social Sciences; six (6) non-divisional courses from the Divisions of Fine Arts, Humanities and Natural Sciences; and one (1) additional course from any of the three areas.

Programs for Honors Work: A student may, as a result of distinguished work, be awarded a degree with Honors or Highest Honors. The details of this program of special studies are available from the Chairman of the Department.

Graduate Degrees

The M.A. and Ph.D. degrees in Economics are offered through the Graduate School. The objectives, requirements and other details for these degrees are explained in the catalogue of the Graduate School.

Courses for Undergraduates

Note: **Economics 31 and 32 or equivalents, are prerequisite to all other courses in Economics,** except those Economics courses numbered under 70, Economics 91, and as otherwise indicated. For Economics majors, the grade of *C* or better must have been attained on Economics

31 and 32 or equivalents. Economics 61 with a grade of *C* or better may, under certain circumstances, be substituted for Economics 31 and 32.

31 GENERAL ECONOMICS I (3). Sophomore elective, but open to freshman honors students. An introduction to economic principles, problems, and policies. *Fall and spring.* Staff.

32 GENERAL ECONOMICS II (3). Prerequisite, Economics 31. Sophomore elective, but open to freshman honors students. An introduction to economic principles, problems, and policies. *Fall and spring.* Staff.

61 PRINCIPLES OF ECONOMICS (3). For juniors and seniors not majoring in economics or business administration; not open to students in the General College. The structure, functions, and underlying principles of modern economic life. *Fall and spring.* Mouzon.

70 ELEMENTARY STATISTICS (3). Prerequisites, Mathematics 1 or 15, and 2 or 31. Sources and collection of data, tabular and graphic presentation, averages, dispersion, time-series analysis, correlation, index numbers, reliability of statistics and tests of significance. *Fall and spring.* Cowden, Murphy, Moffie, Hamburger, Orsagh.

74 GENERAL ACCOUNTING (3). Prerequisite, junior-senior standing. Nonbusiness administration students only. Basis for understanding, evaluating, and interpreting accounting information. Accounting process, determination of cost and income, sources and uses of capital, reporting, changing price levels. *Fall and spring.* Langenderfer, Terrell.

91 RESOURCES AND INDUSTRIES (3). Not open to students in the General College. Survey by industry analysis of selected social and economic problems related to the appraisal and utilization of world resources. An international studies course. *Spring.* Mouzon.

98 HONORS COURSE (3). Directed readings in several fields of economics. Required of all candidates for graduation with honors in economics. *Fall.* Staff.

99 HONORS COURSE (3). Reading and preparation of an essay under the direction of a member of the faculty. Required of all candidates for graduation with honors in economics. *Spring.* Staff.

Courses for Graduates and Advanced Undergraduates

111 INTERNATIONAL RESOURCES AND NATIONAL POLICY (3). International resource problems which necessitate United States policy decisions. National policy and objectives; production potentials; and international security. *Fall.* Mouzon.

120 LOCATION AND SPACE ECONOMY (Planning 176) (3). The evaluation of models generalizing the effects of space on economic and social activity. *Fall.* Knox.

121 REGIONAL SCIENCE TECHNIQUES (Planning 178) (3). Discussion and evaluation of quantitative techniques useful in describing and projecting social and economic variables within urban areas and regions. *Spring.* Knox.

131 INTERMEDIATE THEORY: PRICE AND DISTRIBUTION (3). The determination of prices and the distribution of income in a free-enterprise system. *Fall and spring.* Philbrook, Blackman, Leasure.

132 INTERMEDIATE THEORY: MONEY, INCOME AND EMPLOYMENT (3). Banks and the Federal Reserve System; relations of money to income, output and employment; monetary policy. *Fall and spring.* Philbrook, Kreps, Knipe, Lapkin, Tarascio, Douglas, Appleyard.

135 ECONOMIC DEVELOPMENT IN THE UNITED STATES (3). Principal factors governing American economic expansion since 1800. *Fall and spring.* Gallman, Orsagh.

136 ECONOMIC DEVELOPMENT IN WESTERN EUROPE (3). Main features of economic expansion under capitalism since 1700. *Fall and spring.* Gallman, Orsagh.

141 PUBLIC FINANCE (Political Science 191) (3). Facts and theories of American public finance—federal, state, and local. *Fall and spring.* Spruill, Wilde.

143 PROBLEMS IN STATE AND LOCAL FINANCE (Political Science 193) (3). Prerequisite, Economics 141 or equivalent. Selected problems relating to the financing of state and local functions. *Spring.* Spruill.

145 INDUSTRIAL ORGANIZATION (3). The structure of industry and its relation to performance; causes and historical development of industrial concentration; investigation and analysis of specific industries in the current economy. *Fall.* McFarland.

146 INDUSTRIAL CONCENTRATION AND PUBLIC POLICY (3). Historical development of Federal policy toward business concentration and behavior; the economic interpretation of present Federal anti-trust policy toward business. *Spring.* McFarland.

151 THE AMERICAN TRANSPORTATION SYSTEM (3). A survey of the economic characteristics and basic problems of the several modes of transportation. *Fall.* Blaine.

152 TRANSPORTATION AS A REGULATED INDUSTRY (3). Economic problems and policies under state and federal regulation. *Spring.* Blaine.

153 ECONOMICS OF PUBLIC UTILITIES (3). Theory and policies as applied to the power and communications industries. *Fall.* Blaine.

161 INTERNATIONAL ECONOMICS (3). An introduction to international trade, the balance of payments, and related issues of foreign economic policy. *Fall.* Ingram, Appleyard.

163 ECONOMIC DEVELOPMENT (3). Analysis of present efforts to increase the pace of economic growth in underdeveloped areas; comparisons with the process of development in economically advanced countries. Case studies may be drawn from Asia, Latin America, and Africa. *Spring.* Ingram, Appleyard.

171 FUNDAMENTALS OF STATISTICAL THEORY (3). Prerequisite, Economics 70 or equivalent. Polynomial and exponential trends; moving seasonal. Index numbers. Estimation; power of a test; differences among variances and means; binomial distribution; chi-square. Multiple and partial correlation; rank correlation. *Fall.* Cowden.

172 INTERMEDIATE STATISTICS (3). Prerequisite, Economics 171 or equivalent. Orthogonal polynomials; growth curves; weighted moving averages. Theory of index numbers. Analysis of variance and covariance. Poisson distribution; hypergeometric distribution. Compact methods in correlation. (1966-1967 and alternate years.) *Spring.* Cowden.

173 QUALITY CONTROL BY STATISTICAL METHODS (Business Administration 135) (3). Prerequisite, Economics 70 or equivalent. (1967-1968 and alternate years.) *Spring.* Cowden.

174 ECONOMETRICS (3). Prerequisites, Economics 171 and Mathematics 33 or 109, or equivalents. The application of statistical methods to economic problems. Topics include measurement of demand and costs and macroeconomic models. *Spring.* Hamburger, Murphy.

182 MATHEMATICAL ECONOMICS (Statistics 182) (3). Prerequisite, advanced calculus; corequisite, matrix theory. *Fall.* Staff.

183 ADVANCED MATHEMATICAL ECONOMICS (Statistics 183) (3). Pre requisites, Economics 182 and Mathematics 141. *Spring.* Staff.

185 BUSINESS CYCLES (3). Prerequisite, Economics 132 or equivalent. The nature and causes of business cycles and fluctuations in employment. The means of combating inflation and depression. *Fall.* Lee.

191 AN INTRODUCTION TO THE LABOR PROBLEM (3). An overall survey of the field of labor. *Fall and spring.* Guthrie, Johannesen, Brown.

192 COLLECTIVE BARGAINING (3). Prerequisite, Economics 191 or equivalent. This course deals with the procedures and subject matter of collective bargaining. *Fall and spring.* Guthrie, Johannesen.

193 HISTORY OF THE LABOR MOVEMENT (3). Prerequisite, Economics 191 or equivalent. A history of the labor movement in the United States, with special reference to its economic significance. *Fall.* Guthrie.

194 SOCIAL INSURANCE (3). Prerequisite, Economics 191 or equivalent. Social insurance and its role in modern industrial life. (1966-1967 and alternate years.) *Spring.* Guthrie.

195 COMPARATIVE ECONOMIC SYSTEMS (3). A review of the basic institutions of our American economic system and a comparison with other existent or proposed economic systems. *Fall.* Blackman.

197 GOVERNMENT AND BUSINESS (Political Science 197) (3). The regulation and control of business by government. Constitutional provisions, the anti-trust laws, public utilities, taxation, labor laws, and transportation are the fields explored. *Spring.* Carter.

Courses for Graduates

200 ADVANCED MICROECONOMIC THEORY I (3). Prerequisite, Economics 131 or equivalent. Theory of utility and demand; brief review of perfect competition; theories of imperfect competition. *Fall.* Pfouts.

201 ADVANCED MICROECONOMIC THEORY II (3). Prerequisite, Economics 200 or equivalent. Advanced theory of utility and demand; continuation of imperfect competition; brief treatment of methodology, of input-output methods and of welfare economics. *Spring.* Pfouts.

202 ADVANCED MACROECONOMIC THEORY (3). Concepts and measurements of national income. Determination of national income. *Spring.* Hamburger, Pfouts.

209 BASIC QUANTITATIVE TECHNIQUES I (Business Administration 209) (3). Prerequisite, permission of the instructor. Elementary calculus with applications in economic theory, statistics, and management science. *Fall.* Staff.

210 BASIC QUANTITATIVE TECHNIQUES II (Business Administration 210) (3). Prerequisite, permission of the instructor. Matrix algebra and multi-dimensional calculus, with applications in economic theory, statistics, and management science. *Spring.* Staff.

211 ADVANCED COMMODITY ECONOMICS (3). An analysis of the supply and demand conditions of selected commodities with special reference to commodity control schemes. *Spring.* Mouzon.

226 LINEAR PROGRAMMING (Business Administration 226) (3). Topics in linear programming and game theory. *Fall.* Hamburger, Murphy.

227 ADVANCED MATHEMATICAL PROGRAMMING (Business Administration 227) (3). Prerequisite, Economics 226 (Business Administration 226) or equivalent. Theory of multi-stage multivariate models and their use for solving problems in management and economics. *Spring.* Staff.

235 GENERAL ECONOMIC HISTORY (3). Pre-industrial societies, early stages of industrial growth, and growth of the world economy in the nineteenth century. *Fall.* Gallman.

236 MODERN ECONOMIC HISTORY (3). Prerequisite, Economics 235 or permission of the instructor. Economic change in modern Western societies. Comparative study of growth in Europe and North America. *Spring.* Gallman.

241 ADVANCED PUBLIC FINANCE (3). Prerequisite, Economics 141 or equivalent. Theory of public finance: criteria, procedures, instruments, and operations. *Fall.* Spruill.

245 ADVANCED BUSINESS ORGANIZATION AND SOCIAL CONTROL (3). Prerequisite, permission of the instructor. Extensive readings in the literature are required. Emphasis is placed upon the role of economic analysis in dealing with problems in this field. (1966-1967 and alternate years.) *Spring.* McFarland.

246 TRANSPORTATION PROBLEMS AND POLICIES (3). A course designed to develop an understanding of the major problems affecting the American transportation system and of the need for formulating effective transportation policies. *Fall.* Blaine.

247 DYNAMICS OF TRANSPORTATION (3). Prerequisite, permission of the instructor. The role of transportation in providing mobility in developing mature economies. *Spring.* Blaine.

251 HISTORY OF ECONOMIC THOUGHT I (3). A survey of the development of economic thought from the seventeenth century to the present, with particular emphasis on doctrines reflected in modern economic theory. *Spring.* Tarascio.

252 HISTORY OF ECONOMIC THOUGHT II (3). A study of economic doctrines from the nineteenth century to the present in a methodological perspective. *Fall.* Tarascio.

261 INTERNATIONAL ECONOMICS (3). Prerequisite, permission of the instructor. The theory of international values; comparative advantage and the gains from trade; alternative routes to adjustment in the balance of payments; capital movements. *Fall.* Ingram.

262 THEORY OF INTERNATIONAL TRADE (3). Prerequisite, Economics 261 or equivalent. Selected topics in the theory of international trade. *Spring.* Ingram.

274 ADVANCED ECONOMETRICS (3). Prerequisite, Economics 174 or equivalent. A study of advanced econometric methods, current econometric problems, and the methodology of testing econometric models. *Spring.* Murphy.

281 MONETARY THEORY (3). The role of money in the determination of aggregate demand, the price level, and employment. *Fall.* Philbrook.

282 CENTRAL BANKING AND MONETARY POLICY (3). Prerequisite, Economics 81 or equivalent. The objectives, structure, functions, and operations of central banks; and the formation, impact and effectiveness of monetary policy. *Spring.* Kreps, Lapkin.

285 ANALYSIS OF ECONOMIC FLUCTUATIONS (3). Nature of economic fluctuations. Business cycle theory. Economic stabilization and growth. *Spring.* Lee.

288 MICROECONOMICS (3). The price system, competitive equilibrium and imperfect competition. *Fall.* Winslow.

289 MACROECONOMICS (3). The macro-structure, and operation of the aggregate system; emphasis on growth and economic fluctuations. Consideration of stabilization problems, domestic and international; macroeconomics forecasting. *Spring.* Lee.

291 LABOR ECONOMICS (3). Prerequisite, Economics 191 or equivalent. The implications of basic phenomena in the field of labor, wages, unemployment, etc. *Spring.* Brown.

292 LABOR-MANAGEMENT RELATIONS (Business Administration 292) (3). An advanced study of the procedure, subject matter and legal framework of collective bargaining. *Spring.* Guthrie.

294 POLICIES AND PRACTICES IN LABOR DISPUTE SETTLEMENT (3). Prerequisite, Economics 191 or equivalent. Special consideration will be given to economic implications and resultant effects upon the public interest. (1967-1968 and alternate years.) *Spring.* Guthrie.

295 COMPARATIVE ECONOMIC SYSTEMS (3). Prerequisite, Economics 195. A theoretical analysis of alternative economic systems. *Spring.* Blackman.

296 SOVIET ECONOMIC PLANNING (3). A study of the theory and practice of economic planning in the Soviet Union with emphasis on current methods of allocating resources and controlling economic activities. *Fall.* Blackman.

297 SOVIET ECONOMIC GROWTH (3). Measurement and analysis of the Soviet national product during the period of the Five-Year Plans with attention to emerging patterns and possible future rates of growth. *Spring.* Blackman.

300 SEMINAR IN ECONOMIC THEORY I (3). Prerequisites, Economics 201 and 202. Seminar study of advanced topics in economic theory. *Fall.* Pfouts.

301 SEMINAR IN ECONOMIC THEORY II (3). Prerequisite, Economics 300 or permission of the instructor. Seminar study of advanced topics in economic theory. *Spring.* Pfouts.

335 SEMINAR IN ECONOMIC HISTORY (3). Relation of economic history to economics; history of work in the field. Current problems and techniques of study and research. *Fall and spring.* Gallman.

341 RESEARCH IN PUBLIC FINANCE (3). Prerequisite, permission of the instructor. Open to qualified graduate students to make intensive studies in particular fields. *Fall and spring.* Staff.

351 SEMINAR IN THE HISTORY OF ECONOMIC THOUGHT (3). Prerequisite, permission of the instructor. Advanced study of economic analysis beyond the scope of Economics 251 and 252. *Fall and spring.* Philbrook.

361 SEMINAR IN INTERNATIONAL ECONOMICS (3). Prerequisite, Economics 262 or equivalent. A directed reading and research course. *Spring.* Ingram.

371 RESEARCH IN ECONOMIC STATISTICS (3). Prerequisite, permission of the instructor. *Spring.* Cowden.

381 SEMINAR IN MONEY AND EMPLOYMENT (3). Prerequisite, permission of the instructor. The controversy with respect to money, interest, wages, and employment. *Spring.* Philbrook.

385 SEMINAR IN ECONOMIC FLUCTUATIONS (3). Prerequisite, permission of the instructor. A course for mature students interested in advanced study of economic fluctuation and growth. *Spring.* Lee.

386 SEMINAR IN PORTFOLIO MANAGEMENT (Business Administration 386) (3). Prerequisite, permission of the instructor. Development, testing, and economic effects of models for determining the selection of assets. *Spring.* Latané.

391 SEMINAR IN LABOR (3). Prerequisite, permission of the instructor. This course offers mature students an opportunity to carry their investigations of significant subject matter beyond the limits of the formal course offerings. *Fall and spring.* Guthrie, Johannesen.

393 MASTER'S THESIS. *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION. *Fall and spring.* Staff.

396 SEMINAR IN SOVIET ECONOMICS (3). Prerequisite, permission of the instructor. Studies of selected problems of the Soviet economy and related aspects of Soviet economic thought. Seminar members are expected to present reports on assigned research topics. *Fall.* Blackman.

399 SEMINAR. Prerequisite, permission of the instructor. Individual research in a special field under direction of a member of the Department. *Fall and spring.*

400 GENERAL REGISTRATION (0).

SCHOOL OF EDUCATION

Professors: N. L. Beach, *Dean,* J. C. Otts,[1] Arnold Perry, A. M. Jordan,[2] A. K. King, J. M. Gwynn, W. J. McKee,[2] P. C. Farrar,[2] G. B. Phillips,[2] W. D. Perry, W. C. Ryan,[3] C. F. Brown, T. G. Thurstone, S. M. Holton, D. G. Tarbet, J. B. Chase, R. E. Sommerfeld, N. H. Tracy

Associate Professors: L. R. Taff, N. A. Rosser, R. N. Scott, A. L. Jones, R. S. Hennis, R. C. Phillips, J. E. Blackburn,[4] H. W. Harshman,[1] M. T. Lane, E. R. Watson, Z. E. Eargle

Assistant Professors: R. M. Anderson, J. H. Ballew, G. M. Hipps, A. B. Hounshell, T. D. Price, D. H. Reilly, G. B. Stuck, N. M. Robinson, K. P. White[1]

Instructors: G. R. Harris,[1] J. D. Gault,[1] R. E. Comas, Marlys Mitchell

Lecturers: W. G. Slattery, S. K. Ebert, J. L. Howard,[1] D. E. Taylor

Teaching Fellow: O. T. Cowan

1. Resigned August 31, 1966.
2. Professor, Emeritus.
3. Kenan Professor, Emeritus.
4. Absent on leave, 1966-1967.

General Information

Students who plan to meet the requirements for a teaching certificate in Elementary Education or Secondary Education are under the joint direction of the School of Education and the respective subject matter departments.

Students interested in preparing to teach should consult the Dean of the School of Education, who will give information about the requirements in various teaching fields. Students are admitted to the School of Education for professional work at the beginning of the junior year.

The professional work in preparation for teaching must be taken over a two-year period. For that reason juniors should begin their work promptly in order to meet the requirements.

Courses for Undergraduates

NOTE: For undergraduate courses in physical education see the Department of Physical Education.

41 EDUCATION IN AMERICAN SOCIETY (3). *(The School).* This course or its equivalent is required of all prospective teachers. Considers (1) the historical, philsophical, sociological, and political forces affecting the nature of American education; (2) the structure of the school system; and (3) the current issues in American Education. *Fall and spring.* Staff.

52 MATERIALS AND METHODS IN THE LANGUAGE ARTS (3). Required of all elementary education majors and should be taken during the semester preceding student teaching. Also open to other education majors. Brown, Lane, Jones.

71 EDUCATIONAL PSYCHOLOGY (3). *(The Pupil).* Required of all prospective teachers. Second course in the professional sequence and should be taken during the junior year. Psychological principles pertinent to successfully guiding the growth, learning and adjustment of children; the learner, the learning process and the learning situation. *Fall and spring.* Staff.

THEORY AND PRACTICE OF TEACHING (6 each). Open only to seniors in the School of Education. Staff.

In this block program, time is devoted to study of school organization, appropriate methods and materials of teaching.

61 THEORY AND PRACTICE OF TEACHING IN THE ELEMENTARY SCHOOL *(Fall, spring);*

65 THEORY AND PRACTICE OF TEACHING THE MENTALLY RETARDED IN THE ELEMENTARY SCHOOL

81 THEORY AND PRACTICE OF THE TEACHING OF ENGLISH IN THE SECONDARY SCHOOL *(Fall, spring);*

85 THEORY AND PRACTICE OF THE TEACHING OF SOCIAL STUDIES IN THE SECONDARY SCHOOL *(Fall, spring);*

89 THEORY AND PRACTICE OF THE TEACHING OF MATHEMATICS IN THE SECONDARY SCHOOL *(Fall);*

91 THEORY AND PRACTICE OF THE TEACHING OF SCIENCE IN THE SECONDARY SCHOOL *(Spring);*

93 THEORY AND PRACTICE OF THE TEACHING OF PUBLIC HEALTH *(Spring);*

95 THEORY AND PRACTICE OF THE TEACHING OF LANGUAGE ARTS AND SOCIAL STUDIES IN THE JUNIOR HIGH SCHOOL *(Spring).*

METHODS AND MATERIALS IN TEACHING (3 each). *(Teaching).*

These courses are taught six days per week during the first half of the semester indicated. Open only to seniors in the School of Education. Staff.

NOTE: Students deficient in quality points will not be admitted to the professional block program.

63 HEALTH AND PHYSICAL EDUCATION *(Spring);*
67 SPEECH *(Spring);*
69 DISTRIBUTIVE EDUCATION *(Spring);*
75 INSTRUMENTAL MUSIC *(Spring);*
76 CHORAL MUSIC *(Spring);*
77 ART *(Spring);*
83f FRENCH *(Spring);*
83g GERMAN *(Spring);*
83s SPANISH *(Spring);*
87 LATIN *(Spring).*

STUDENT TEACHING (6 each).

Student teaching is designed to emphasize learnings in the three areas of *The School, The Pupil,* and *Teaching,* as outlined in many state plans of professional courses. It is conducted on a full-time basis during the second half of the semester indicated and is carried out under University supervision in cooperating public schools in the state. Open only to seniors in the School of Education. Staff.

62 ELEMENTARY GRADES *(Fall, spring);*
64 HEALTH AND PHYSICAL EDUCATION *(Spring);*
66 STUDENT TEACHING IN THE PROGRAMS FOR THE MENTALLY RETARDED
68 SPEECH *(Spring);*
70 DISTRIBUTIVE EDUCATION *(Spring);*
78 INSTRUMENTAL MUSIC *(Spring);*
79 CHORAL MUSIC *(Spring);*
80 ART *(Spring);*
82 ENGLISH *(Fall, spring);*
84f FRENCH *(Spring);*
84g GERMAN *(Spring);*
84s SPANISH *(Spring);*
86 SOCIAL STUDIES *(Fall, spring);*
88 LATIN *(Spring);*
90 MATHEMATICS *(Fall);*
92 SCIENCE *(Spring);*
94 PUBLIC HEALTH *(Spring);*
96 JUNIOR HIGH SCHOOL *(Spring).*

72a CHILD GROWTH AND DEVELOPMENT (3). Required of all prospective elementary school teachers. To be taken during the first half of the semester in which student teaching is done. *Fall and spring.* Ebert.

72b ADOLESCENT GROWTH AND DEVELOPMENT (3). Required of all prospective secondary school teachers. To be taken during the first half of the semester in which student teaching is done. *Fall and spring.* Scott, Rosser.

99 THE SECONDARY SCHOOL (3). This course meets six days each week during the first half of the semester in which student teaching is done. Required of all secondary school teachers majoring in health and physical education, instrumental music, vocal music, art, French, German, Spanish, Latin, or public health. Includes the development of both the rationale and the practices of secondary education, with an integrated treatment of current curriculum and organizational questions and conflicts. *Spring.* Staff.

Courses for Fifth-Year Program

The following courses are open only to students in the Fifth-Year Program or students with a bachelor's degree and special permission.

G51 PHILOSOPHICAL AND PSYCHOLOGICAL CONCEPTS IN AMERICAN EDUCATION (6). *Fall, spring, and summer.* Staff.

THEORY AND PRACTICE OF TEACHING (3-12 each). *Summer and fall.*

G81 THEORY AND PRACTICE OF THE TEACHING OF ENGLISH IN THE SECONDARY SCHOOL;

G83f THEORY AND PRACTICE OF THE TEACHING OF FRENCH IN THE SECONDARY SCHOOL;

G83g THEORY AND PRACTICE OF THE TEACHING OF GERMAN IN THE SECONDARY SCHOOL;

G83s THEORY AND PRACTICE OF THE TEACHING OF SPANISH IN THE SECONDARY SCHOOL;

G85 THEORY AND PRACTICE OF THE TEACHING OF SOCIAL STUDIES IN THE SECONDARY SCHOOL;

G87 THEORY AND PRACTICE OF THE TEACHING OF LATIN IN THE SECONDARY SCHOOL;

G89 THEORY AND PRACTICE OF THE TEACHING OF MATHEMATICS IN THE SECONDARY SCHOOL;

G91 THEORY AND PRACTICE OF THE TEACHING OF SCIENCE IN THE SECONDARY SCHOOL;

G95 THEORY AND PRACTICE OF THE TEACHING OF LANGUAGE ARTS AND SOCIAL STUDIES IN THE JUNIOR HIGH SCHOOL.

NOTE: Fifth-year students may register for the appropriate Theory and Practice course for three semester hours during the summer and for nine additional hours during the field experience in the fall semester for a total of twelve semester hours.

Courses for Graduates and Advanced Undergraduates

Undergraduate students who are not in the School of Education must get the permission of the dean to enroll in these courses.

Attention is called to courses listed under psychology, sociology, physical education, dramatic art, and other departments as of particular importance in present-day preparation of teachers and educational administrators. For advanced courses in physical education see the Department of Physical Education.

For graduate courses for teachers and school administrators offered on Saturday at Chapel Hill see separate announcements.

NOTE: Most of the graduate courses in education are also available in one or both of the two terms of the summer session. See the catalogue of the Summer Session.

101 EDUCATIONAL ADMINISTRATION (3). An extensive treatment of administrative theory, organization, function and technique as they relate to the public school systems with the system of governmental entities in the United States. *Fall.* Tracy, Tarbet, A. Perry, Eargle.

103 INTRODUCTORY STATISTICS FOR EDUCATIONAL RESEARCH (3). Orientation to statistics; principles and methods of descriptive statistics: central tendency, variability, the normal curve, standard scores, centiles, correlation; introduction to statistical inference: sampling, *t,* Chi square, simple analysis of variance; introduction to non-parametric methods. Applications to educational research. Sommerfeld, Tracy, Stuck.

120 MUSIC EDUCATION IN THE HIGH SCHOOL (3). *Summer session.* Carter (of the Music Department).

121 INVESTIGATIONS AND TRENDS IN MUSIC EDUCATION (3). *Summer session.* Carter (of the Music Department).

129 ADULT EDUCATION: A GENERAL SURVEY (3). Prerequisite, permission of the instructor. The history and philosophy of adult education. Current developments in this and other countries. Forms of adult education today. Problems in adult learning. *Spring.* Watson.

130 PROGRAM PLANNING IN ADULT EDUCATION (3). Prerequisite, permission of the instructor. Designing of programs, courses, and classes for adult community groups; business and industrial groups; governmental and voluntary agencies; and continuing higher education. Emphasis upon evaluation and appraisal. *Summer.* Watson.

131 ADULT LEARNING IN SMALL GROUPS (3). Prerequisite, permission of the instructor. Study of how group learning takes place. Current trends in research on group interaction. Workshop approach to an understanding of problems through group processes. *Fall.* Watson.

132 FUNCTION AND STRUCTURE OF DISTRIBUTIVE EDUCATION (3). *Summer session.* Slattery.

133 SUPERVISION OF THE COOPERATIVE DISTRIBUTIVE EDUCATION PROGRAM (3). *Summer session.* Slattery.

135 AUDIO-VISUAL INSTRUCTION: TECHNIQUES AND MATERIALS (3). *Spring.* Tarbet.

140 SOCIAL FOUNDATIONS OF AMERICAN EDUCATION (3). A study of the basic historical developments, philosophical theories and social forces that influence the objectives, organization, administration, curricular arrangements, teaching methods and other procedures of schools, colleges and universities in the United States. King, Holton, Phillips.

141 PHILOSOPHY OF MODERN EDUCATION (3). A comparative study of the current philosophies of education with particular attention to their impact on solutions offered to problems currently recognized in American education. *Fall.* King, Holton, Rosser, Phillips.

142 EUROPEAN FOUNDATIONS OF MODERN EDUCATION (History 130) (3). A survey of the development of western education in Europe from ancient times until the beginning of the twentieth century. *Fall.* King, Holton, Phillips.

143 SOCIAL AND EDUCATIONAL HISTORY OF THE UNITED STATES (History 170) (3). A survey of the social forces influencing the development of American education from the period of colonization to the early years of the twentieth century. *Spring.* King, Holton, Phillips.

144 SOCIAL POLICY AND EDUCATION (3). A graduate seminar considering the significant problems of a social policy nature in the operation of American education. *Spring.* King, Holton.

152 THE LANGUAGE ARTS IN THE ELEMENTARY SCHOOL (3). *Fall.* Brown, Jones.

154 THE SOCIAL STUDIES IN THE ELEMENTARY SCHOOL (3). *Spring.* Brown, Jones, Lane.

155 NATURAL SCIENCE IN THE ELEMENTARY SCHOOL (3). *Spring.* Price.

156 ARITHMETIC IN THE ELEMENTARY SCHOOL (3). *Spring.* Jones, Ballew.

160 THE SCHOOL CURRICULUM (3). Open to seniors and graduate students with 15 semester hours of credit in education or by permission of the instructor. The history and purposes of the curriculum; principles and techniques of curriculum construction; trends and practices in curriculum revision in the modern schools. *Fall and spring.* Gwynn.

161 ELEMENTARY EDUCATION IN THE UNITED STATES (3). *Fall.* Brown, Jones, Lane, Price.

165 IMPROVEMENT IN READING (3). *Spring.* Brown, Jones.

170 PSYCHOLOGICAL FOUNDATIONS OF EDUCATION (3). The nature and relevance of educational psychology; sources and interpretation of educational and psychological data; components of teaching-learning situations, evaluation, and reporting. *Fall and spring.* Sommerfeld, Rosser, Scott, Stuck.

171 GROWTH AND DEVELOPMENT OF THE SCHOOL CHILD (3). *Fall and spring.* Sommerfeld, Scott, Rosser, Stuck.

172 THE PROBLEMS OF MALADJUSTMENT AMONG CHILDREN (3). *Spring.* Rosser, Reilly.

174 USE AND INTERPRETATION OF EDUCATIONAL TESTS AND MEASUREMENTS (3). Basic concepts in measurement and evaluation. The role of evaluation in curriculum construction and revision and in the improvement of instruction. *Spring.* Sommerfeld, Rosser, Reilly.

176 MENTAL HYGIENE IN TEACHING (3). Prerequisite, introductory courses in psychology and education. The role of the teacher in the socialization and development of emotional health in children as accompanying academic development. Sources of problems and implications. *Fall and spring.* Sommerfeld, Taff, Rosser.

180 INTRODUCTION TO THE STUDY OF EXCEPTIONAL CHILDREN (Psychology 180) (3). *Fall.* Anderson, Robinson, Taylor.

181 TEACHING THE MENTALLY HANDICAPPED CHILD (3). *Spring.* Anderson, Taylor.

182 THE GIFTED CHILD IN SCHOOL AND SOCIETY (3). *Spring.* Robinson.

183 PRINCIPLES OF SPEECH CORRECTION (3). *Summer session.* Staff.

184 CLINICAL PROCEDURES IN SPEECH CORRECTION (3). *Summer session.* Staff.

185 PSYCHOLOGY OF MENTAL RETARDATION (3). Prerequisite, Education 174 or equivalent or permission of the instructor. *Spring and summer session.* Robinson, Anderson.

186 PHONETICS (3). The recognition, analysis, production, and transcription of the sounds of the English language, using the international phonetic alphabet. Attention to foreign dialects and American regional differences in speech. *Summer session.* Staff.

196 THE JUNIOR HIGH SCHOOL (3). *Fall.* Staff.

199 SECONDARY EDUCATION IN THE UNITED STATES (3). The American high school, its history, evolving development and structure, purposes and functions, curriculum, and significant trends causing rapid changes and its extension today. *Fall and spring.* Staff.

Courses for Graduates

201 PROCEDURES IN EDUCATIONAL RESEARCH (3). An orientation to research methods, problems, and procedures in historical, survey, developmental, and comparative studies; criteria for evaluating research; and the communication of research findings. *Spring.* King, Sommerfeld, Tracy, Stuck.

202 INTRODUCTION TO GUIDANCE AND PERSONNEL WORK (Formerly Education 105) (3). *Fall, spring, and summer session.* W. D. Perry, Taff, Scott.

203 ADVANCED STATISTICS IN EDUCATIONAL RESEARCH (3). Sampling, probability and statistical inference: introduction to sampling theory, introduction to probability theory, multiple classification analysis of variance, interaction, analysis of covariance, linear regression, partial correlation, multiple correlation, multiple regression; further consideration of nonparametric techniques. Staff.

204 TECHNIQUES IN EDUCATIONAL LEADERSHIP (3). The development of an understanding of the leadership role and function, sensitivity to the natures and structures of groups, and the problems of communication within and among groups. *Fall.* Tracy, A. Perry, Beach.

205 TECHNIQUES IN COUNSELING (3). Prerequisite, Education 202 or permission of the instructor. *Fall and spring.* W. D. Perry, Taff.

206 THEORIES, APPRAISALS AND USE OF RESOURCE MATERIALS IN GUIDANCE (3). *Fall and spring.* W. D. Perry, Taff.

207 STUDENT PERSONNEL ADMINISTRATION (3). *Spring.* W. D. Perry.

211 SUPERVISED PRACTICUM IN GUIDANCE (3). Prerequisites, Education 202, 205, 206, 274 or permission of the instructor. *Spring and summer session.* W. D. Perry, Taff.

212 ADVANCED TECHNIQUES AND PRACTICES FOR COUNSELORS (6). Refinement of techniques for counselors through continued use of case studies utilizing individual and group techniques, data from measurements and educational, occupational and personal-social information. *Spring and summer session.* W. D. Perry, Taff.

213 GUIDANCE INTERNSHIP—FIELD EXPERIENCES (6). Students serve internship in counseling while closely supervised by University staff members and professional counselors under whom they are working. *Spring and summer session.* W. D. Perry, Taff.

230 TECHNIQUES OF LEADERSHIP DEVELOPMENT IN DISTRIBUTIVE EDUCATION (3). *Summer session.* Slattery.

231 SUPERVISION OF THE ADULT PROGRAM IN DISTRIBUTIVE EDUCATION (3). *Summer session.* Slattery.

245 COMPARATIVE EDUCATION (3). A study of patterns of education in other cultural settings with implications for the student of American education. *Summer session.* Holton.

247 HIGHER EDUCATION IN THE UNITED STATES (3). Prerequisite, Education 142 or Education 143, or History 71-72, or the equivalent. The history and present status of the organization, administration and curriculum of higher education; the growth of denominational and Land-Grant Colleges and Universities, the two-year college, and graduate and professional education. *Spring.* Gwynn, King, Holton.

248 TEACHER EDUCATION IN THE UNITED STATES (3). A study of the development, issues and programs for the preparation of teachers. Designed for students planning to work in teacher education. Chase, Beach.

249 THE COLLEGE CURRICULUM (3). Prerequisite, Education 247 or the equivalent or permission of the instructor. A study of the theories of general education and the determinants and issues of the curriculum in the college; an analysis of research and policy in relation to academic procedures. *Spring.* Chase.

260 CURRICULUM THEORY (3). An advanced course in curriculum theory, research and experimentation. Study and evaluation of recent curriculum reports and system-wide curriculum developments including provisions for the atypical and culturally deprived student. *Spring and summer session.* Gwynn.

265 INVESTIGATIONS IN READING (3). Prerequisite, Education 165 and permission of the instructor. *Spring.* Brown, Jones.

266 DIAGNOSIS AND TREATMENT OF READING DIFFICULTIES (3). Prerequisite, Education 165 and permission of the instructor. *Summer.* Brown.

267ab EDUCATION WORKSHOP (3 or 6). Open by special permission to a limited number of qualified graduate students who have specific interests or problems that are adapted to staff and local resources available. *Summer session.* Staff; visiting faculty.

271 PROBLEMS OF EDUCATIONAL PSYCHOLOGY I (3). Individual differences and problems of conduct. *Fall.* Sommerfeld, Reilly.

272 PROBLEMS OF EDUCATIONAL PSYCHOLOGY II (3). Prerequisite, one and preferably two courses in educational and developmental psychology. Psychology of learning (theoretical aspects) and psychology of learning (practical applications). *Spring.* Sommerfeld, Stuck.

273 THEORY AND USE OF INDIVIDUAL INTELLIGENCE TESTS (3). Prerequisites, Education 174 or equivalent and permission of the instructor. *Summer session.* Thurstone, Robinson, Reilly.

274 THE USE OF TESTS IN THE ANALYSIS OF THE INDIVIDUAL (3). Prerequisite, Education 202 or permission of the instructor. The student may be required to purchase tests. *Fall.* W. D. Perry, Taff, Sommerfeld.

275 ORGANIZATION AND ADMINISTRATION OF GUIDANCE PROGRAM (3). Prerequisite, Education 202. *Spring and summer session.* W. D. Perry, Scott, Taff.

277 ADVANCED THEORY AND PRACTICE IN EDUCATING THE SPEECH HANDICAPPED (3). *Summer session.* Staff; visiting faculty.

278 SEMINAR IN SCHOOL PSYCHOLOGY (3). Prerequisites, appropriate courses and permission of the instructor. The objectives of school psychology; the role of the school psychologist in relation to the school administration, the education process, pupil personnel services, the school society; related professional roles. Sommerfeld, Reilly.

279 PRACTICUM IN SCHOOL PSYCHOLOGY (3). Supervised experience in observation and participation in psychological services in schools, child guidance clinics and other mental health facilities. Diagnosis, therapy and consultation services. Sommerfeld, Reilly.

281 INVESTIGATIONS AND TRENDS IN THE TEACHING OF ENGLISH (3). Prerequisite, Class A English certificate or equivalent. An advanced course designed to examine research, current experimental practices and the effects of educational theories upon the purposes, structure, and program of the language arts. *Summer session.* Hennis.

283 AUDIOLOGY (3). A practical course designed to meet the needs of the public school speech therapist whose case load includes pupils with hearing losses. Clinical practice in audiometric testing. *Summer session.* Staff.

284 ADVANCED CLINICAL PROCEDURES IN SPEECH CORRECTION AND DIAGNOSIS (3). Advanced procedures in speech correction and an integration of previous professional course work and experience as they relate to case interview and history technique, parental counseling, diagnostic examinations, report writing, and case referral. Staff.

285 MULTI-DISCIPLINARY APPROACH TO PROBLEMS OF MENTAL RETARDATION (3). Competent representatives from various selected disciplines will present their views on the problems of mental retardation. Disciplines represented will included Psychology, Neurology, Genetics, Speech, Psychiatry. Anderson, Robinson.

286 MULTI-DISCIPLINARY APPROACH TO PROBLEMS OF MENTAL RETARDATION (3). Competent representatives from various disciplines represented will present their views on the problems of mental retardation. Disciplines represented will include Sociology, Social Work, Public Health, Vocational Rehabilitation, and Law. Anderson, Robinson.

287 SUPERVISED PRACTICUM IN SPECIAL EDUCATION (3). Students may choose one of the following areas for concentrated practical experience: (1) Administration and supervision, (2) Planning and implementation in an undergraduate program of special education, or (3) Planning and implementation for public school pupils who are mentally retarded. Anderson, Taylor.

291 INVESTIGATIONS AND TRENDS IN TEACHING NATURAL SCIENCE (3). *Fall.* Hounshell.

292 ORGANIZATION, ADMINISTRATION AND SUPERVISION OF ELEMENTARY AND SECONDARY SCHOOLS (6). Prerequisite, North Carolina Class A Certificate; a minimum of one year teaching experience. A. Perry, Tracy, Tarbet.

293 PROBLEMS OF EDUCATIONAL LEADERSHIP (6). Prerequisite, North Carolina Class A Certificate—Education 101—a minimum of one year of teaching experience. Tracy, A. Perry, Tarbet, Beach.

294 TECHNICAL STUDIES ON PUBLIC SCHOOL FINANCE PERSONNEL AND FACILITIES (6). Prerequisites, Graduate Studies, Education 101, 292. *Fall and summer session.* Tracy, A. Perry, Tarbet.

295 ADVANCED SEMINAR AND SUPERVISED INTERNSHIP IN EDUCATIONAL ADMINISTRATION (6). Prerequisites, three semesters of graduate work including Education 101, 292, 294. Tracy, Tarbet, A. Perry.

297 SCHOOL LAW (3). Prerequisites, courses required for the Class A North Carolina Teachers Certificate and 6 semester hours of graduate work in school administration. *Fall of alternate years and summer session.* Staff.

298 SUPERVISION OF INSTRUCTION (3) Nature and purposes of supervision, recent trends, in theory and practice, teacher participation in policy, organization, and planning; specific techniques and devices of supervision; training and qualifications of supervisors. *Summer session.* Gwynn, A. Perry, Jones.

299 PROBLEMS IN SUPERVISION (3). A study of major problems in the supervision of instruction. Investigations of new trends and recent research. Gwynn, A. Perry, Jones.

301 SEMINAR IN THE DESIGN AND ANALYSIS OF RESEARCH PROJECTS (3). The designing, conducting, and analyzing of significant, school-oriented research projects. Techniques of systematic analysis and clarification of research problems; relationship between hypotheses and research procedures—the appropriate use of statistical techniques; methods of control; sampling procedures; data collecting procedures. Introduction to computer techniques. Sommerfeld, Tracy.

303 PROBLEMS IN EDUCATIONAL ADMINISTRATION (3-6). May be repeated for credit. Prerequisites, Education 101 or equivalent and one other course in educational administration. *Fall and spring.* A. Perry, Tracy, Gwynn, Tarbet.

304 PROBLEMS IN EDUCATIONAL MEASUREMENT (3). May be repeated for credit. Prerequisite, Education 174. *Fall and spring.* Sommerfeld, Rosser.

305 PROBLEMS IN GUIDANCE AND PERSONNEL WORK (3). May be repeated for credit. Prerequisites, two graduate courses in guidance. *Fall and spring.* W. D. Perry, Taff.

341 READINGS AND INVESTIGATIONS IN THE SOCIAL FOUNDATIONS OF EDUCATION (3 or more). Prerequisites, Education 142 and 143 or equivalents. *Spring.* Holton, King, Phillips.

347 PRINCIPLES AND PRACTICES OF COLLEGE TEACHING (3). *Fall.* Holton, Gwynn.

349 SUPERVISED INTERNSHIP IN COLLEGE TEACHING (6). Prerequisites, Education 247 and 249 and approval of instructor. A one semester internship under the direction of a college teacher and supervised by University staff from the major and professional area. Concurrent seminar in instructional theory and practice. Staff.

350 PROBLEMS IN ELEMENTARY EDUCATION (3). May be repeated for credit. Prerequisites, two courses in graduate education. *Fall and spring.* Brown, Jones, Lane, Price.

360 PROBLEMS IN THE CURRICULUM (3). May be repeated for credit. Prerequisites, two courses in graduate education. *Fall and spring.* Gwynn.

371 READINGS AND INVESTIGATIONS IN EDUCATIONAL PSYCHOLOGY (3-6). Study and development of original investigations. Sommerfeld, Rosser.

376 SEMINAR IN EDUCATION (3). Prerequisites, two courses in graduate education. *Fall and spring.* Members of the graduate faculty.

380 SEMINAR IN SPECIAL EDUCATION (3). Robinson, Thurstone, Anderson.

381 PROBLEMS IN SPECIAL EDUCATION (3). This course provides an opportunity for students to carry on (a) an intensive study of some topic in special education, (b) a limited research project, or (c) a field study in special education. Anderson.

393 MASTER'S THESIS (3 or more). *Fall and spring.* Members of the graduate faculty.

394 DOCTORAL DISSERTATION (0-6). *Fall and spring.* Members of the graduate faculty.

398 PROBLEMS IN SECONDARY EDUCATION (3). May be repeated for credit. Prerequisites, two courses in graduate secondary education. *Fall and spring.* Members of the graduate faculty.

400 GENERAL REGISTRATION (0).

DEPARTMENT OF ENGLISH

Professors: C. CARROLL HOLLIS,[1] *Chairman,* G. M. HARPER,[2] A. P. HUDSON,[3] DOUGALD MACMILLAN,[4] A. C. HOWELL[5], R. P. BOND,[4] RAYMOND ADAMS,[6] *Acting Chairman,* W. A. OLSEN, H. K. RUSSELL, W. S. WELLS,[7] R. B. SHARPE,[8] C. P. LYONS,[4] N. E. ELIASON,[4] E. W. TALBERT,[9] J. O. BAILEY, N. W. MATTIS, C. H. HOLMAN,[10] G. F. HORNER,[11] L. A. COTTEN, O. B. HARDISON, J. R. GASKIN, R. B. VOITLE,[12] P. G. PHIALAS, R. H. FOGLE, P. D. BRANDES

Associate Professors: E. H. HARTSELL,[13] LUCIA MORGAN, JESSIE REHDER,[14] D. W. PATTERSON, F. H. MACINTOSH, A. B. STRAUSS, S. G. BARNES, C. E. EDGE, SIEGFRIED WENZEL, F. G. READ, WELDON THORNTON, M. L. REED, F. C. THOMSON, J. M. FLORA, W. A. MCQUEEN, SALLY Y. SEDELOW

Assistant Professors: J. D. MASON,[15] R. C. LYON, C. D. WRIGHT, R. A. BAIN, J. K. KING, R. P. FITZGERALD, H. M. HARPER, E. M. COLLINS, D. G. DONOVAN, T. A. STUMPF, W. A. WEST, J. C. BROOKHOUSE, R. W. MORAN, J. R. RAPER, L. G. AVERY, R. D. RUST, W. J. POWERS, J. W. PENCE, GEORGIA B. CHRISTOPHER, J. A. DEVEREUX, P. J. GALLACHER

Lecturers: MARTHA HARDY, BETTY SMITH,[16] JEAN-PIERCE PETIT,[6] DORIS BETTS[6]

Instructors: W. D. FORDYCE, W. V. KAUFMAN, J. L. MILLS, J. E. BRYAN, E. M. STIRLING, DOUGALD MCMILLAN, C. BLUE CALHOUN,[6] W. K. HOOD, K. J. KERRANE, C. T. LUDINGTON, G. M. MCCOWAN, J. H. SCHWARZ

Writer-in-Residence: MAXWELL STEELE

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1. Absent on leave, fall semester, 1966.
2. Resigned August 31, 1966.
3. Kenan Professor, Emeritus.
4. Kenan Professor.
5. Retired from teaching, June 30, 1966.
6. Fall semester, 1966.
7. Kenan Professor; on leave from teaching, effective September 1, 1966.
8. Professor, Emeritus.
9. Alumni Distinguished Professor of English.
10. Kenan Professor; on leave from teaching, effective July 15, 1966.
11. Retired June 1, 1966.
12. Absent on leave, spring semester, 1967.
13. Associate Professor, Emeritus.
14. Died February 3, 1967.
15. Resigned August 31, 1966.
16. Spring semester, 1967.

Part-time Instructors: D. W. ADAMS, J. A. ALFORD, CHARMAINE ALLMON, C. F. ALTIERI, JOANNE ALTIERI, LORNA AYERS, GEORGE BALISH, J. R. BELFLOWER, PANTHEA BROUGHTON, H. M. BROWN, MARY ANN BROWN, M. L. CAMPBELL, C. W. CARTER, C. L. CHERRY, J. G. COLLIER, C. G. DAVIS, W. S. DOXEY, R. J. DOZIER, W. F. EGGERS, W. K. EVERETT, R. J. FINNERAN, N. R. FORSYTH, K. J. GALBRAITH, D. J. GENDRON, G. A. GLAHN, D. W. GUNN, B. D. HARDER, HELGA HARDER, NANCY HARVEY, JOAN HEIGES, EUGENE HOLLOHAN, R. D. HUNTLEY, D. D. JOHNSON, R. R. JOLY, R. L. JONES, J. A. KING, E. B. KIRKHAM, EDWIN KUEHN, REGINA LEBOWITZ, ANNE LEERMAKERS, CAROLINE LOCKETT, M. M. LOFTIN, CHARLES LUCHT, SHERROLYN MAXWELL, W. M. MOSS, J. E. NELSON, M. H. OLLINGTON, M. R. PAULL, SUSAN PASSLER, J. D. POWELL, K. H. RABIN, C. M. RAYMOND, P. J. RECKFORD, G. C. ROGERS, JUDY ROGERS, R. L. RUSSELL, R. R. SANDERLIN, R. T. SELF, M. V. SKULICZ, J. B. SMITH, W. E. SPEHAR, PATRICIA STEPHENS, A. D. STEWART, BETHANY STRONG, A. R. THIERSCH, J. W. VAN CLEVE, L. A. WALZ, R. D. WATSON, A. R. WHITTLE, LA NELL WILSON, M. K. WILSON, C. H. WOODELL, A. L. WRIGHT, ARTHUR WROBEL

Teaching Fellows: D. A. CARROLL, C. F. IKERD, P. A. STITT

Graduate Assistants: G. L. BARNETT, R. J. GIBSON, R. L. JONES, CAROLINE LOCKETT, J. W. MCDONOUGH, J. D. MORAN, D. L. PASSLER, J. A. W. REMBERT, CAROLE STOIBER, SUSAN STONE, LINDA WOOFTER

Courses for Undergraduates

Prerequisites: English 1 and 2 are prerequisite to all advanced courses offered by the English department.

Majors in English in the College of Arts and Sciences: A student choosing English as his major field should take (a) English 58; (b) two of the following: English 45, 51, 52, 54, 60, 64; (c) one of the following: English 66, 72, 73; (d) one of the following: English 81, 82, 83; (e) one to three courses chosen as free electives from the advanced courses offered by the Department (courses numbered from 30 to 199, with the exception of 32 and 33). In accordance with University regulations a student must have a grade of *C* or better in at least eighteen semester hours in the major.

Majors in English in the College of Arts and Sciences with a concentration in Speech: A student choosing English as his major field with a concentration in Speech should take (a) English 58; (b) two of the following: English 45, 51, 52, 54, 60, 64; (c) one of the following: English 66, 72, 73; (d) one of the following: English 81, 82, 83; (e) one of the following: Speech 40, 41, 50; (f) one of the following: Speech 44 or 54; (g) two electives from the courses in Speech numbered from 30 to 199.

Majors in English in the School of Education: A student who desires to secure a certificate in the public high schools with a major in English should consult the School of Education for the courses in education and for the minor. (See "School of Education" in Part III.) The English requirements are: (a) English 30; (b) English 36; (c) English 58; (d) English 81 or 82; (e) Speech 40 or 41; (f) One of the follow-

ing: English 52, 54, 60, 64, 66; (g) One of the following: English 72, 73, 78; (h) Two electives in literature (one of which may be taken during the freshman or sophomore year). In accordance with University regulations a student must have a grade of *C* or higher in at least eighteen semester hours in the major.

Majors in Speech in the School of Education: A student who desires to secure a certificate in the public high schools with a major in Speech should consult the School of Education for the courses in education and for the minor. (See "School of Education" in Part III.) Students who choose Speech as their teaching field will take the following courses or alternates which have been approved by their adviser: (a) Speech 40, 41, 44, 183; (b) Speech 45 or 54 or 87; (c) Speech 50 or 140 or 170; (d) Dramatic Art 31 or 51 or 63; (e) R-TV-MP 60; (f) any combination of additional courses in speech, dramatic art and R-TV-MP to make a minimum total of 30 semester hours.

Honors in English and Honors in Writing: See College of Arts and Sciences, Part III.

NOTE: Both undergraduate and graduate courses in Speech follow immediately after English 99. Graduate courses in English follow the Speech courses.

C THE WRITING LABORATORY (0). Prerequisite, English 2. Not open to foreign students. A review of grammar, vocabulary, spelling, and composition with especial emphasis on writing. May be used to remove a composition condition *(cc). Fall and spring.* Kirkham, *Director;* staff.

1 ENGLISH COMPOSITION AND RHETORIC (3). Required of all students except those qualifying by placement test for English 2. *Fall and spring.* McQueen, *Director;* staff.

2 ENGLISH COMPOSITION AND RHETORIC (3). Required of all students except those qualifying by placement test for English 21A. *Fall and spring.* McQueen, *Director;* staff.

2W ENGLISH COMPOSITION AND RHETORIC (3). A course in composition with emphasis on creative writing. Permission of instructor is required. This course satisfies the requirement of English 2. *Spring.* Rehder; staff.

21 ENGLISH LITERATURE (3). Prerequisite, English 2. Substantial readings in Chaucer, Shakespeare, and Milton. Required of all students in the General College. *Fall and spring.* McQueen, *Director;* staff.

21A ENGLISH LITERATURE (3). A special section of English 21 for students who are exempted from taking English 1 and 2 because of high SAT scores. Substantial readings in Chaucer, Shakespeare, and Milton, with more written work than is required in English 21. This course satisfies the requirement for English 21. *Fall.* McQueen, *Director;* staff.

21H LITERARY FORM (3). Freshman Honors students only. The epic and the tragedy. Homer's *Odyssey,* Milton's *Paradise Lost,* Pope's *The Rape of the Lock,* Sophocles' *Oedipus Rex,* Shakespeare's *King Lear,* Ibsen's *Hedda Gabler. Fall.* Lyon, F. Read, M. Reed, Wright.

22 ENGLISH LITERATURE (3). Sophomore elective. Prerequisite, English 2. Representative works (exclusive of Chaucer, Shakespeare, and Milton) from *Sir Gawain and the Green Knight* to William Butler Yeats. *Fall and spring.*

22H LITERARY FORM (3). Freshman Honors students only. Poetry and fiction. Brooks and Warren's *Understanding Poetry.* Wallace Stevens; Flaubert's *Madame Bovary,* Dostoevski's *Crime and Punishment,* Joyce's *A Portrait of the Artist as a Young Man,* Mann's *Death in Venice. Spring.* F. Read, M. Reed, Wright.

23 INTRODUCTION TO FICTION (3). Sophomore elective. Prerequisite, English 2. Novels and shorter fiction by Smollett, Conrad, Faulkner, Wolfe, James, Orwell, Cary, Malamud, Golding and others. *Fall and spring.* McQueen, *Director;* staff.

25 INTRODUCTION TO POETRY (3). Sophomore elective. Prerequisite, English 2. Wide variety of poetic styles, with formal rather than chronological orientation. *Fall and spring.* McQueen, *Director;* staff.

26 INTRODUCTION TO DRAMA (3). Sophomore elective. Prerequisite, English 2. Wilder, Arthur Miller, T. Williams, Samuel Beckett, Edward Albee, Ibsen, Shaw, and others. *Fall and spring.* McQueen, *Director;* staff.

30 ADVANCED COMPOSITION: THE TECHNIQUE OF EXPOSITION (3). Expository writing for students desiring practice in organizing and presenting material. *Fall.* Barnes, Christopher, Moran, Powers; *spring.* Barnes, Christopher, Hollahan, Moran.

32 ADVANCED COMPOSITION: BUSINESS WRITING (3). Concentration upon the business letter, memorandum, report, and oral presentations. This course cannot be counted toward an English major. *Fall.* Lucht; *spring.* Lucht, MacIntosh.

33 ADVANCED COMPOSITION: SCIENTIFIC WRITING (3). Prerequisite, permission of the instructor. To meet the needs of students in the sciences, through practice in writing explanations, descriptions, business letters, professional papers, and reports. This course cannot be counted toward an English major. *Fall.* MacIntosh; *spring.* Fitzgerald, Harper.

34F CREATIVE WRITING I: INTRODUCTION TO THE SHORT STORY (3). Prerequisite, permission of the instructor. Class discussion of short stories, longer fiction, and general literary principles; technical training in the writing of original short stories. *Fall.* Brookhouse, Kaufman, Rehder, Steele; *spring.* Kaufman.

34P CREATIVE WRITING I: INTRODUCTION TO POETRY (3). A workshop class in the essentials of a successful poem in the making. Course work consists of reading contemporary poets and of writing poems. Permission of instructor required. *Spring.* Wright.

35 CREATIVE WRITING II (3). Prerequisite, permission of the instructor. An advanced course in imaginative writing for students who have had some previous experience in this field. *Spring.* Steele.

36 ENGLISH GRAMMAR (3). A study of modern English grammar with special attention to such current problems as the confusion of grammatical terminology, attacks on traditional rules, conflict between prescriptive and descriptive grammar. The course is designed especially for prospective English teachers, but others may take it. *Fall.* Gallacher, Wenzel; *spring.* Gallacher.

38 THE ENGLISH LANGUAGE (3). Present-day English, British and American, standard and dialectal—its historical background and development. The language as a whole is considered, i.e., vocabulary, pronunciation, spelling, etc.; grammar is treated only incidentally. *Spring.* Gallacher.

40 INTERPRETATION OF POETRY (3). Exploration of the significance of poetry for thought and human experience. Consideration of forms and substance. *Spring.* Lyons.

41 PRINCIPLES OF LITERARY ART (3). A study of the theories of literature through their application to specific English masterpieces.

43 THE ENGLISH NOVEL (3). The English novel in the eighteenth and nineteenth centuries. *Fall.* Russell, Strauss; *spring.* Edge, Thomson.

45 THE ENGLISH DRAMA (3). The English drama from the beginning to 1700. *Fall.* Donovan; *spring.* Flora.

51 ENGLISH LITERATURE OF THE MIDDLE AGES (3). English writing from the twelfth to the fifteenth centuries, exclusive of Chaucer. *Fall.* Gallacher.

52 CHAUCER (3). The development of Chaucer as a man and as an artist as revealed in certain minor poems, the *Troilus,* and most of *The Canterbury Tales. Fall.* Wenzel; *spring.* Brookhouse, Gallacher.

54 ENGLISH LITERATURE OF THE RENAISSANCE (3). Poetry and prose of representative authors, including More, Wyatt, Sidney, Spenser, Raleigh, Bacon; with selected plays of Marlowe, Dekker, and Jonson. *Fall.* Lyons, Mills; *spring.* Mills.

58 SHAKESPEARE (3). Study of about twenty representative comedies, histories, and tragedies. *Fall.* Devereux, Lyons, Mills, Phialas; *spring.* Devereux, McQueen, Mills, Phialas, Talbert.

60 ENGLISH LITERATURE, 1616-1700 (3). Bacon, Donne, Herbert, Browne, Herrick, Dryden. *Fall.* Christopher, Sedelow; *spring.* Christopher.

63 THE LITERARY ASPECTS OF THE BIBLE (3). The Old Testament and the New Testament will be taken up in alternate semesters—New Testament, fall; Old Testament, spring. *Fall.* Fitzgerald; *spring.* Stumpf.

64 MILTON (3). The works of Milton studied in the light of the life, times, and culture of the poet. *Fall.* Christopher, Donovan, McQueen; *spring.* Donovan, Hardison, Sedelow.

66 PROSE AND POETRY OF THE CLASSICAL PERIOD (3). Addison, Steele, Swift, Pope, Johnson, Boswell, Gray, and Cowper. *Fall.* Strauss, Stumpf; *spring.* Fitzgerald, Stumpf.

72 THE CHIEF ROMANTIC POETS (3). Wordsworth, Coleridge, Byron, Shelley, and Keats. *Fall.* M. Reed, Stumpf, West; *spring.* Fogle, M. Reed, Stirling.

73 VICTORIAN LITERATURE (3). Major English writers, 1832-1890. *Fall.* Stirling, Wright; *spring.* Cotten, Thomson.

78 ENGLISH LITERATURE, 1890-1920 (3). Hardy, Henley, Housman, Kipling, Wilde, Shaw, Conrad, Galsworthy, and the Irish Revival. *Fall.* Cotten, Thomson; *spring.* Bailey, Wright.

81 AMERICAN LITERATURE (3). Major authors from the beginning to 1890. *Fall.* Adams, Bain, Moran, Raper; *spring.* Adams, Bain, Lyon, Powers, Thornton.

82 AMERICAN LITERATURE (3). Major authors from 1890 to the present. *Fall.* Lyon, Moran, Patterson, Rust; *spring.* Adams, King, Moran, Patterson.

83 THE AMERICAN NOVEL (3). Hawthorne, Twaine, Henry James, Dreiser, Hemingway, Faulkner, and others. *Fall.* Bain, King, Powers, Raper; *spring.* Bain, Flora, Raper, Rust.

92 MODERN BRITISH LITERATURE (3). Poetry and fiction, 1920-1940: Yeats, Joyce, Pound, Eliot, Lawrence, Waugh, Auden, Thomas, and others. *Fall.* F. Read; *spring.* McMillan.

93 THE BRITISH NOVEL FROM 1870 TO WORLD WAR II (3). Hardy, Conrad, Joyce, Lawrence, Cary, Greene, and others. *Fall.* Edge, Harper, McMillan, Thomson, West; *spring.* Barnes, Edge, Russell, West.

94 BRITISH AND AMERICAN FICTION SINCE WORLD WAR II (3). Beckett, Durrell, Golding, Sillitoe, Bellow, Ellison, Malamud, Flannery O'Conner, and others. *Fall.* Bryan, Harper; *spring.* Bryan, Harper.

95 ENGLISH AND AMERICAN DRAMA OF THE TWENTIETH CENTURY (3). *Fall.* Avery, Flora, King; *spring.* Avery, Flora, King.

97 COURSE FOR HONORS (6). See the Program for Honors Work in the
98 College of Arts and Sciences. Reading and the preparation of an essay under the direction of departmental advisers.

99 HONORS IN WRITING (3). See description on page 64. *Fall.* Rehder; *spring.* Betts.

101X ENGLISH AS A SECOND LANGUAGE (0). Practice in understanding, reading, speaking, and writing English, with considerable attention to the oral-aural approach. Required of all foreign students whose scores on the English proficiency examination indicate need for further training. *Fall and spring.* McMillan.

COURSES IN SPEECH

(Undergraduate and Graduate)

37 FUNDAMENTALS OF ORAL COMMUNICATION (3). Introduction to the major areas of speech training and study, including voice and pronunciation, oral reading, and public speaking. Special attention to factors common to all oral communication. Sophomore elective; open to juniors and seniors. *Fall and spring.* Brandes.

40 VOICE AND DICTION (3). Designed to establish good habits of speech by study of principles and analysis of the individual's voice, articulation, and pronunciation. *Fall.* Brandes, Morgan, Pence; *spring.* Morgan, Pence.

41 ORAL INTERPRETATION OF LITERATURE (3). Emphasis on understanding and appreciation; voice and articulation receive attention, but systematic training in the mechanics of speech is reserved for Speech 40. *Fall.* Brandes, Hardy; *spring.* Hardy.

44 PUBLIC SPEAKING (3). Composition and delivery of original speeches: content, organization, style, delivery, and adaptation to the audience. *Fall.* Collins, Hardy, Mattis, Olsen; *spring.* Brandes, Collins, Hardy Mattis, Olsen.

45 ARGUMENTATION AND DEBATE (3). Analysis of issues, use of evidence, reasoning, brief-making and refutation. Argumentative speeches and practice debates on current issues. Designed especially for prospective speech teachers and college debaters. *Fall and spring.* Pence.

50 ADVANCED VOICE AND DICTION (3). Prerequisite, Speech 40 or permission of the instructor. A continuation of Speech 40. Detailed study of phonetics. Practice in oral reading, public speaking, and dramatic interpretation. *Spring.* Morgan.

54 ADVANCED PUBLIC SPEAKING (3). Prerequisite, one course in speech or permission of the instructor. Composition and delivery of original speeches; study of model speeches and discussion techniques. *Fall and spring.* Olsen.

87 HISTORY OF AMERICAN PUBLIC ADDRESS (3). Examination of selected speakers who have helped shape American ideals and policy. *Fall and spring.* Mattis.

140s APPLIED PHONETICS (3). The International Phonetic Alphabet with emphasis on the sound system of English; application of phonetics to problems in pronunciation, articulation, correction of foreign accents, and other deviations.

154 PERSUASION (3). A study of the classical canons of invention, arrangement, style, and delivery to determine how attitudes are changed by oral communication. An introduction to experimental methods in persuasion. *Spring.* Brandes.

170s VOICE AND ITS PRODUCTION (3). Prerequisite, Speech 40 or permission of the instructor. Anatomy and physiology of the speech mechanism; the physical, physiological, and neurological bases of speech.

183s PRINCIPLES OF SPEECH CORRECTION (Education 183) (3).

Courses for Graduates and Undergraduates

NOTE: Except by permission juniors will not be admitted to these courses. Course numbers followed by *s* denote courses offered in the summer only.

130s ADVANCED COMPOSITION (3).

134s CREATIVE WRITING IN PROSE (3).

136 MODERN ENGLISH (3). A study of modern English grammar and problems in teaching it. *Fall.* Gaskin; *spring.* Wenzel.

140s INTERPRETATION OF LITERATURE (3).

141 LITERARY CRITICISM (3). The history of literary criticism from Plato to Dryden. Special emphasis is placed on Aristotle's *Poetics* and on its influence on Renaissance critics. *Fall.* Hardison.

147 THE ENGLISH BALLAD (3). Examination of the form, content, history, and literary relations of the traditional ballad in the British Isles and America, with emphasis upon the collection of Francis James Child. *Fall.* Patterson.

151s ENGLISH LITERATURE OF THE MIDDLE AGES (3).

152s CHAUCER (3).

154s ENGLISH LITERATURE OF THE RENAISSANCE (3).

158s SHAKESPEARE (3).

161s ENGLISH DRAMA, 1600-1642 (3).

164s MILTON (3).

165 RESTORATION AND EIGHTEENTH-CENTURY DRAMA (3). A study of the drama from 1660 to 1780. *Spring.* MacMillan.

166s ENGLISH LITERATURE, 1700-1780 (3).

172s THE CHIEF ROMANTIC POETS (3).

174s MAJOR FIGURES IN VICTORIAN LITERATURE (3).

175 NINETEENTH-CENTURY DRAMA, ENGLISH AND AMERICAN (3). A survey of dramatic movements and writers from 1800 to 1900. *Spring.* Bailey.

183s THE AMERICAN NOVEL (3).

188 SOUTHERN AMERICAN LITERATURE (3). *Spring.* Thornton.

193s RECENT ENGLISH AND AMERICAN FICTION (3).

195s ENGLISH AND AMERICAN DRAMA OF THE TWENTIETH CENTURY (3).

Courses for Graduates

237 OLD ENGLISH GRAMMAR AND READINGS (3). Primarily a linguistic course in Old English grammar, but time is devoted to surveying the prose of the period. *Fall.* Brookhouse, Eliason; *spring.* Gaskin.

238 HISTORY OF THE ENGLISH LANGUAGE (3). Prerequisite, English 237 or permission of the instructor. For students of linguistics and English literature; a study of the language mainly from the historical point of view, but other approaches are considered. *Spring.* Eliason.

240 INTERPRETATION OF POETRY (3). The issues of theoretical and practical criticism in the understanding and interpretation of poetry; their significance in teaching and scholarship. (Not offered in 1966-1967.)

243 THE ENGLISH NOVEL (3). The English novel in the eighteenth and nineteenth centuries. *Spring.* Russell.

250 STUDIES IN OLD ENGLISH LITERATURE: BEOWULF (3) Prerequisite, English 237. A continuation of English 237, but with literary rather than linguistic emphasis. The whole body of Old English poetry is dealt with, *Beowulf* receiving special attention. *Spring.* Eliason.

251 MIDDLE ENGLISH LITERATURE (3). The literature of the period in relation to its social, political, and religious background. *Spring.* Wenzel.

252 CHAUCER (3). A reading of Chaucer's works with attention to critical and historical problems involved in their interpretation. *Fall.* Eliason.

254 ENGLISH LITERATURE OF THE SIXTEENTH CENTURY (3). A survey of the literature of the Elizabethan period, exclusive of the drama. *Spring.* Hardison.

255 MEDIEVAL DRAMA (3). Emphasis falls on fifteenth-century English drama (the mystery cycles, miracles, and moralities), with preliminary consideration of the Latin drama of the medieval church. (Not offered in 1966-1967.)

256 ENGLISH DRAMA, 1495-1600 (3). *Fall.* Talbert.

258 SHAKESPEARE: THE EARLY PLAYS (3). Emphasis on historical and critical problems presented by Shakespeare's works. *Fall.* Phialas; *spring.* Talbert.

259 SHAKESPEARE: THE LATE PLAYS (3). Emphasis on historical and critical problems presented by Shakespeare's works. *Fall.* Talbert; *spring.* Lyons.

260 ENGLISH LITERATURE, 1600-1660 (3). The study of English literature (prose and verse) from the beginning of the century to the Restoration. *Fall.* McQueen.

261 ENGLISH DRAMA, 1600-1642 (3). Jacobean and Caroline drama, with emphasis on Jonson, Chapman, Webster, Beaumont, Fletcher, Massinger, and Ford. *Spring.* Phialas.

264 MILTON (3). An intensive study of Milton's works and thought. *Fall.* Voitle.

266 ENGLISH LITERATURE, 1660-1740 (3). The non-dramatic literature of the period. *Fall.* MacMillan.

267 ENGLISH LITERATURE, 1740-1800 (3). The non-dramatic literature of the period, excluding the novel. *Spring.* Strauss.

272 ENGLISH LITERATURE, 1780-1832 (3). A survey of the Romantic period, with special attention to the major poets. *Fall.* Fogle; *spring.* M. Reed.

273 VICTORIAN LITERATURE: PROSE (3). A survey of major English prose writers of the period. *Fall.* Bailey.

274 VICTORIAN LITERATURE: POETRY (3). A survey of major English poets of the period. *Spring.* Cotten.

280 EARLY AMERICAN LITERATURE (3). A survey of the colonial, revolutionary, and early national periods, including Bryant, Irving, and Cooper. *Spring.* Hollis.

281 AMERICAN LITERATURE, 1830-1855 (3). English 280 precedes this survey, but is not prerequisite. Poe, Hawthorne, Emerson, Thoreau, Lowell, and Transcendentalism. *Fall.* Fogle; *spring.* Patterson.

282 AMERICAN LITERATURE, 1855-1900 (3). Chief authors: Melville, Whitman, Lanier, Dickinson, Twain, Howells, James; literary criticism; and the dominance of magazines. *Spring.* Lyon.

283 THE AMERICAN NOVEL (3). The American novel from its beginning to the twentieth century. (Not offered in 1966-1967.)

291 RECENT ENGLISH AND AMERICAN CRITICISM (3). A survey of the principal critical movements in England and America from Arnold to the present. *Spring.* Fogle.

292 ENGLISH AND AMERICAN POETRY OF THE TWENTIETH CENTURY (3). *Fall.* Cotten; *spring.* F. Read.

293 ENGLISH AND AMERICAN FICTION OF THE TWENTIETH CENTURY (3). *Fall.* Russell, Thornton; *spring.* Thornton.

295 ENGLISH AND AMERICAN DRAMA OF THE TWENTIETH CENTURY (3). *Fall.* King.

298 BIBLIOGRAPHY AND METHODOLOGY (3). Required of all candidates for the A.M. and Ph.D. degrees. Designed to aid students in preparing term papers, theses, and dissertations, with attention to bibliographical guides, problems of literary research, and standard scholarly forms and procedures. *Fall.* MacMillan; *spring.* Donovan.

343 SEMINAR: THE ENGLISH NOVEL (3). (Not offered in 1966-1967.)

351 SEMINAR: STUDIES IN MEDIEVAL LITERATURE (3). Research in special problems in the literature of the Middle Ages. *Fall.* Eliason; *spring.* Wenzel.

354 SEMINAR: STUDIES IN ELIZABETHAN LITERATURE (3). *Fall.* Talbert; *spring.* Phialas.

360 SEMINAR: STUDIES IN SEVENTEENTH-CENTURY LITERATURE (3). *Fall.* Voitle.

366 SEMINAR: STUDIES IN EIGHTEENTH-CENTURY LITERATURE (3). *Spring.* MacMillan.

372 SEMINAR: STUDIES IN NINETEENTH-CENTURY ROMANTICISM IN ENGLAND (3). Two divisions in alternate years; Byron and Shelley problems; Wordsworth and Coleridge problems. (Not offered in 1966-1967.)

373 SEMINAR: STUDIES IN VICTORIAN LITERATURE (3). *Spring.* Bailey.

381 SEMINAR: STUDIES IN AMERICAN LITERATURE (3). *Fall.* Patterson; *spring.* Fogle.

390 SEMINAR: STUDIES IN TWENTIETH-CENTURY LITERATURE, ENGLISH AND AMERICAN (3). *Fall.* Hardison; *spring.* F. Read.

393 MASTER'S THESIS (3). *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION (3). *Fall and spring.* Staff.

395 SEMINAR: MODERN DRAMA (Dramatic Art 395) (3). (Not offered in 1966-1967.)

397 SPECIAL READINGS (3).

400 GENERAL REGISTRATION (0).

Attention is called to the courses in philology and advanced literary study offered in the departments of Classics (Latin Epigraphy, Latin Paleography), Comparative Literature, Germanic Languages (Gothic, Old and Middle High German, Old Saxon, Old Norse, etc.), and Romance Languages (Old French, Provençal, Old Irish, Old Spanish, Dante, etc.).

See also the Curriculum in Linguistics.

CURRICULUM IN FOLKLORE

DEAN OF THE GRADUATE SCHOOL, *Chairman*

D. W. PATTERSON, *Secretary*, Professors: U. T. HOLMES,[1] G. B. JOHNSON,[1] J. G. KUNSTMANN, WILTON MASON, JACQUES HARDRÉ, JOHN GULICK

This curriculum assembles the facilities of the University for those who desire a major or minor for the master's degree or a doctoral minor in folklore with a major in some related department, and mobilizes the pertinent graduate instruction in this field now being offered in such departments as English, Germanic Languages, Music, Romance Languages, and Sociology and Anthropology. Students having had an undergraduate major in any of these departments, and having had the prerequisite courses, are eligible to take work in this curriculum with a view to becoming candidates for higher degrees.

1. Kenan Professor.

Courses for Graduates and Advanced Undergraduates

(For descriptions of courses below offered by the departments of Music, Romance Languages, and Sociology and Anthropology, see listings under department headings.)

103 PRIMITIVE AND ORIENTAL MUSIC (Music 103) (3). (1964-1965 and alternate years.) *Spring.* Mason.

104 FOLK MUSIC OF EUROPE AND THE NEW WORLD (Music 104) (3). (1963-1964 and alternate years.) *Spring.* Mason.

105 CELTIC: OLD IRISH (3). *On demand.* Holmes.

106 CELTIC: OLD WELSH (3). *On demand.* Holmes.

122 CULTURAL ANTHROPOLOGY (Anthropology 122) (3). *Fall.* Johnson.

123 ANTHROPOLOGY OF RELIGION (Anthropology 123) (3). (1965-1966 and alternate years.) *Fall.* Honigmann.

126 AFRICA: PEOPLES AND CULTURES (Anthropology 126) (3). *Fall.* Johnson.

127 ABORIGINAL CULTURES OF MEXICO AND CENTRAL AMERICA (Anthropology 127) (3). (1965-1966 and alternate years.) *Fall.* Brockington.

129 SOUTHEAST ASIA: PEOPLES AND CULTURES (Anthropology 129) (3). *Spring.* Goethals.

130 INDIANS OF NORTH AMERICA (Anthropology 130) (3). *Spring.* Coe.

132 LATIN AMERICAN CULTURES (Anthropology 132) (3). Rubin.

135 THE NATURE OF CULTURE (Anthropology 135) (3). Gulick.

137 THE MIDDLE EAST: PEOPLES AND CULTURES (Anthropology 137) (3). *Fall.* Gulick.

138 PEOPLES OF THE FAR EAST: CHINA AND JAPAN (Anthropology 138) (3). (Not offered in 1966-1967.) *Fall.*

147 THE ENGLISH BALLAD (English 147) (3). Examination of the form, content, history, and literary relations of the traditional ballad in the British Isles and America, with emphasis upon the collection of F. J. Child. *Fall.* Patterson.

185 INTRODUCTION TO FOLKLORE (Comparative Literature 185) (English 148) (Anthropology 185) (3). Definition and examples of folklore in general and its various categories. Collection, classification, and analysis of folklore materials. Bibliography. (Not offered in 1966-1967.)

186 FOLK NARRATIVE (Comparative Literature 186) (3). Study of origin, development, and dissemination of myths, legends, and folktales, with a survey of their use in masterpieces of world literature. (Not offered in 1966-1967.) *Spring.*

Courses for Graduates

(For descriptions of courses below offered by the departments of Music, Sociology and Anthropology, see listings under department headings.)

230 CULTURE CONTACTS AND ACCULTURATION (Anthropology 230) (Sociology 230) (3). *Spring.* Johnson.

234 CULTURES OF NORTHERN NORTH AMERICA (3). (1966-1967 and alternate years.) *Fall.* Honigmann.

270 GENERAL INTRODUCTION TO GERMAN VOLKSKUNDE (German 270) (3). A reading knowledge of French is desirable but not necessary. A survey of the fields of German literary and non-literary *Volkskunde* with special attention to *Märchen* and *Sprichwort. Fall.* Kunstmann.

272 THE GERMAN VOLKSLIED (German 272) (3). Survey of German *Volkslied* studies from the eighteenth century to the present; theories concerning the provenance of the *Volkslied;* special attention to the interrelation of *Volkslied* and *Kunstlied. Spring.* Kunstmann.

342 SEMINAR IN GERMAN VOLKSKUNDE (German 342, 343) (3 each). *On*
343 *demand.* Kunstmann.

395 RESEARCH (3). Research in a special field under the direction of members of the staff.

400 GENERAL REGISTRATION (0).

FRENCH

(See Romance Languages)

CURRICULUM IN GENETICS

Professors: JOHN B. GRAHAM (Pathology), HENRY NEIL KIRKMAN (Pediatrics), MAURICE WHITTINGHILL (Zoology)

Associate Professors: ROBERT ELSTON (Biostatistics), EDWARD GLASSMAN (Biochemistry), HARRY GOODER (Bacteriology)

Assistant Professors: EDWARD G. BARRY (Botany), ROBERT A. GOYER (Pathology), GEOFFREY HAUGHTON (Bacteriology), JOHN CHARLES LUCCHESI (Zoology), WILLIAM S. POLLITZER (Anthropology)

Postdoctoral Fellows: EDWARD J. DUKE, ANNEMARIE SCHNEIDER

Predoctoral Fellows: JAMES F. COLLINS, ROSE E. GAINES (Biostatistics), ANN S. HENDERSON, THEODORE HOMYK, JR., RAYMOND J. KELLEHER, CHRISTINE J. KUSYK, JOEL A. NEWTON (Zoology), A. MYRA PETTS, MICHAEL J. SCHEWE, BONITA V. SMITH, PAUL D. SMITH (Zoology), JOHN B. WHITNEY III

Genetics is one of the most rapidly developing areas of modern biology and is recognized as being basic to the understanding and theoretical study of many aspects of biology. The Curriculum in Genetics has been established to provide an integrated inter-departmental program of study leading toward the Ph.D. degree in Genetics. The courses required for the major are provided by established courses in the departments of Anatomy (Anthropology), Bacteriology, Biochemistry, Biostatistics, Botany, Pathology, Psychology, and Zoology. The extensive research facilities of these departments are available to graduate students and postdoctoral fellows enrolled in the Curriculum. Types of research being conducted by members of the Genetics Curriculum include: molecular biology, bacterial genetics, microbial genetics, human and medical genetics, cytogenetics, biochemical genetics, tissue culture, behavioral genetics, psychiatric genetics, anthropological genetics, statistical and population genetics, Drosophila genetics, and cell biology.

The state of North Carolina is particularly well suited for the study of human genetics. The population is stable, families were large in earlier generations, family records are good, and it is relatively easy to assemble a kindred of 500 or more persons. In addition, there are several tri-racial populations in the state whose genes are derived from Caucasian, Negro, and Indian ancestors. These populations have presented unusually favorable material for studies in anthropological genetics.

Requirements for Admission for Graduate Work

Applications will be entertained from students who have majored or minored in one of the following disciplines: chemistry, genetics, biology (zoology or botany), physics, mathematics, biophysics, psychology, or bacteriology. All undergraduates who anticipate a career in Genetics or Molecular Biology are urged to master differential and integral calculus, organic chemistry and physical chemistry, although this is not absolutely required for admission to the Curriculum. Deficiencies in training and in background, however, must be overcome in the first year of study. Applicants are urged to apply for admission as early as possible although applications will be considered throughout the year. Graduate Record Examination scores and transcripts must be received before an application is considered.

Fellowships

PREDOCTORAL FELLOWSHIPS: These are designed for *graduate students* working toward the Ph.D. degree. Stipends range from $2400-$3000 for 12 months, plus tuition, and an allowance of $500 for each dependent.

Opportunities are also available for *medical and dental students* who wish to spend summer or elective periods (preferably, the post-sophomore year) participating in genetics research.

POSTDOCTORAL FELLOWSHIPS: These fellowships are available to persons who have acquired the Ph.D., M.D., D.D.S., or D.V.M. degree during the past 5 years. Stipends range from $5000 to $8500 per annum, depending upon experience and the number of dependents.

SENIOR FELLOWSHIPS: Several positions are available for senior persons, particularly those holding faculty rank, who have developed an interest in Genetics or Molecular Biology and are seeking research training in these disciplines.

Requirements for the Ph.D. Degree

Candidates for the Ph.D. degree in Genetics should be well trained in the fundamentals of biology and biochemistry. Minors may be chosen from a variety of scientific disciplines, such as Biochemistry,

Chemistry, Bacteriology, Physiology, Psychology, Statistics, Physics, Zoology, or Botany. The minor may be divided between two of the above disciplines, a minimum of ten semester hours in each. Courses approved for the major and minor will be selected to meet the needs of the individual student. Emphasis is placed on preparing students for the future challenges of Genetics and Molecular Biology. The most important requirement is independent laboratory research in Genetics leading to the dissertation. A reading knowledge of two foreign languages, usually German and French, is required. In individual cases the substitution of some other language may be approved.

Genetics Club

The Genetics Club provides a forum for persons at The University of North Carolina at Chapel Hill who have common interests in Genetics and Molecular Biology. The club meets at 12 noon every Friday during the academic school year and the program consists of seminars presented by the students and staff of the Curriculum and by invited speakers from other institutions.

Courses for Graduates and Advanced Undergraduates

101 STATISTICAL ANALYSIS I (Statistics 101) (4). Corequisite, integral calculus. *Three lecture and two laboratory hours a week, fall.* Quade.

102 STATISTICAL ANALYSIS II (Statistics 102) (3). Prerequisite, Statistics 101. *Two lecture and two laboratory hours a week, spring.* Quade.

111 GENETICS (Zoology 111) (4). Prerequisite, Zoology 11. The principles of Mendelian heredity, linkage, mutation, population mechanics, and the relation between genes and environment in development. Laboratory experiments with Drosophila and maize. *Two lecture and six laboratory hours a week, spring.* Whittinghill.

112 PHYSICAL ANTHROPOLOGY (Anthropology 112, Anatomy 112) (3). An introductory survey of physical anthropology, including the place of man among the primates, human evolution, and racial differences. Consideration is also given to osteology, genetic theory, and the interrelationship of cultural and biological factors. (1965-1966 and alternate years.) *Three lecture hours a week, spring.* Pollitzer.

114 BACTERIAL GENETICS (Bacteriology 114) (4). Prerequisite, Bacteriology 112 or permission of the instructor. A study of the processes involved in genetic variation among both bacteria and viruses. Laboratory exercises designed to introduce the principal techniques currently in use to further such studies. (1966-1967 and alternate years.) *Two lecture and four laboratory hours a week, spring.* Gooder.

115 GENETICS AND HUMAN EVOLUTION (Anthropology 115) (3). Prerequisite, Introductory Biology or permission of instructor. Fundamental principles of genetics; population genetics; genetic equilibrium; race and species formation; the factors of evolution; and the relation of these principles to the primates, fossil man and modern man. Blood groups and other

traits as illustrations. The interplay of biology and culture in human evolution. (1966-1967 and alternate years.) *Three lecture hours a week, spring.* Pollitzer.

122a HUMAN GENETICS (Zoology 122) (3). Prerequisite, Zoology 11. A study of biological inheritance in man. Effects of mutation, selection, migration, and racial mixture; applications of genetics to medico-legal questions. *Three lecture hours a week, fall.* Whittinghill.

122b INTRODUCTION TO COMPUTER PROGRAMMING IN THE HEALTH SCIENCES (Biostatistics 122) (2). Prerequisite, Biostatistics 110 or equivalent, or permission of the instructor. A general introduction to digital computers, programming, and applications. Organization of statistical programs and data, and special methods used with statistical programs. *Two lecture hours a week, spring.* Lachenbruch.

155 GENETICS SYSTEMS (Bacteriology 155, Biochemistry 155, Botany 171, Pathology 155) (3). No prerequisites. An introductory course in genetics emphasizing the genetics and molecular biology of viruses, bacteria, fungi, insects and mammals. Assigned readings and reports. *Three lecture hours a week, fall.* Staff.

163 DEVELOPMENTAL GENETICS (Zoology 163) (3). Prerequisites, Zoology 11 and one Genetics course. The genetic control of gametogenesis and fertilization, and the molecular basis of gene expression during development. (1966-1967 and alternate years.) *Three lecture hours a week, spring.* Lucchesi.

Courses for Graduates

220 BIOCHEMISTRY OF GENETICS (Biochemistry 220) (5). Prerequisites, Biochemistry 103, 104, or permission of the professor. Genetics 155 is recommended. Various aspects of modern genetic theory and molecular biology will be systematically covered. This includes viral and bacterial genetics, roles of DNA and RNA in the cell, fine structure genetics, mutation, recombination and other topics of current interest. (1966-1967 and alternate years.) *One 3-hour lecture a week, spring.* Glassman.

222a HUMAN GENETICS AND CONSTITUTIONAL PATHOLOGY (Pathology 222) (3½). Prerequisite, Pathology 161a. Includes elementary statistics, basic genetic theory and relevant field work with persons, archives and census records. *Two conference and six laboratory hours a week, fall.* Graham.

222b ADVANCED GENETICS (Zoology 222) (3). Prerequisite, Genetics 111. The effects of chemical agents in the environment upon inheritance. Reports from the literature chiefly upon chemical mutagenesis. Laboratory experiments on the chemical induction of crossing over. (1966-1967 and alternate years.) *Six laboratory and conference hours a week, fall.* Whittinghill.

223 RADIATION GENETICS (Zoology 223) (3). Prerequisite, Genetics 111. Study of the action upon living cells of irradiation by X-rays, neutrons, infrared, ultraviolet, and other forms of radiation. Crossing over and mutations are emphasized. (1966-1967 and alternate years.) *Three lecture or seminar hours a week, spring.* Whittinghill.

225 STATISTICAL METHODS IN HUMAN GENETICS (Biostatistics 225) (3). Prerequisite, Biostatistics 130 or permission of the instructor. An introduction to statistical procedures for testing genetic hypotheses and estimating genetic parameters, with emphasis on the special methods required for human data. Topics covered include maximum likelihood estima-

tion, chi-square tests, statistical models for the effects of mutation, selection and recombination, Bayes' theorem and its genetic applications, segregation ratios and linkage under incomplete ascertainment, racial mixture, quantitative inheritance and twin data. (1966-1967 and alternate years.) *Three lecture hours a week, spring.* Elston.

232 SEMINAR IN GENETICS (Biochemistry 232) (3). Prerequisites, Biochemistry 103, 104. Genetics 155 is recommended. (1966-1967 and alternate years.) *One 3-hour meeting a week. Spring.* Glassman.

233 SEMINAR IN BIOCHEMICAL REGULATION (3). Prerequisites, Biochemistry 103, 104. Genetics 155 is recommended, (1966-1967 and alternate years.) *Three hours a week, fall.* Glassman and other members of the Biochemistry Department.

234 SEMINAR IN MOLECULAR BIOLOGY (Biochemistry 234) (3). Prerequisites, Biochemistry 103a, 104a. (1966-1967 and alternate years.) *Three hours a week, spring.* Glassman and other members of the Biochemistry Department.

251 SEMINAR IN GENETICS (Zoology 251) (2). Prerequisite, Genetics 111 or 155, or permission of the instructor. (1966-1967 and alternate years.) *Fall.* Lucchesi.

255 DISCUSSIONS IN MOLECULAR BIOLOGY (Biochemistry 255) (3). Prerequisites, Genetics 220 and permission of the professor. Assigned readings and discussions of the current literature in molecular biology with emphasis on genetics, differentiation and cell regulation. The material covered will vary each semester and the course may be taken repeatedly for credit. Assigned readings and reports. *One 3-hour meeting a week when requested.* Glassman.

263 SEMINAR IN DEVELOPMENTAL GENETICS (Zoology 263) (2). Prerequisite, Genetics 155 or Zoology 11 or permission of the instructor. Different areas of developmental genetics will be emphasized each year. These areas will include the genetic control of gametogenesis and fertilization, and the action of genes during embryonic development. (1965-1966 and alternate years.) *Two hours a week, spring.* Lucchesi.

271 MICROBIAL GENETICS (Botany 271) (4). Prerequisite, Genetics 111 or Genetics 155. Genetic mechanisms of microorganisms with particular reference to the fungi and algae. *Three lecture and three laboratory hours a week, fall.* Barry.

272 CYTOGENETICS (Botany 272) (3). Prerequisite, Genetics 111 or Genetics 155. Critical study of research papers concerned with the behavior and organization of chromosomes. *Three lecture hours a week, spring.* Barry.

300 RESEARCH IN BIOCHEMISTRY OF GENETICS (Biochemistry 300) (4 or more). Prerequisites, Biochemistry 103 and 104 when requested. Glassman.

301 RESEARCH (Bacteriology 301) (3 or more). May be continued for credit two or more semesters. *Hours and credit to be arranged, throughout the year.* Gooder.

302 303 304 RESEARCH IN HUMAN GENETICS (Pathology 302, 303, 304) (3⅓ or more each). Prerequisite, permission of the professor. *Ten laboratory hours a week, fall, winter, spring, and summer quarters.* Graham.

337 RESEARCH IN GENETICS (Zoology 337) (3 or more). Whittinghill, Lucchesi.

345 RESEARCH IN DEVELOPMENTAL GENETICS (Zoology 345) (3 or more). Lucchesi.

370 RESEARCH IN GENETICS (Botany 370) (3 or more.) Barry.

400 GENERAL REGISTRATION (0).

DEPARTMENT OF GEOGRAPHY

Professor: J. D. EYRE, *Chairman*
Associate Professors: D. G. BASILE, R. E. LONSDALE
Assistant Professors: C. E. BROWNING, L. DE VORSEY, JR., R. G. SMITH
Teaching Fellows: W. D. HARRISON, G. E. STETSON
Graduate Assistants: J. B. COLE, D. D. DANIELS, D. P. ENBERG, C. J. FARMER, J. D. FORTUNE, J. L. FULLER, A. V. GOYETTE, S. B. HARDY, D. M. ORR, W. D. WARREN, L. A. WOODS

Geographers are concerned with an analysis of the location and spatial distribution of things and with the interrelationships among physical and cultural characteristics of places and regions. They find employment in several fields, with teaching attracting the largest number. Government agencies offer a variety of opportunities in such fields as cartography and map analysis, aerial photo interpretation, resource and land-use surveys, and foreign area intelligence. Industrial concerns, research organizations, and federal, state, and municipal planning agencies employ sizeable numbers of geographers as field investigators, locational analysts, and planners.

Course requirements for an A.B. in geography are as follows: (1) Geography 38, 48 and Geology 11, (2) six additional courses in geography (including 152, 157 and 171), (3) six or seven courses in allied studies and six or seven non-divisional courses selected with the approval of the undergraduate adviser.

Geography 38 and 48 are recommended as preparation for advanced geography courses.

Courses for Undergraduates

38 INTRODUCTION TO PHYSICAL GEOGRAPHY (4). Natural science credit. A study of the physical basis of geography with emphasis on the interrelationships among climate, landforms, natural vegetation, and soils. *Three lecture and two laboratory hours a week, fall and spring.* Staff.

48 INTRODUCTION TO HUMAN GEOGRAPHY (3). Geographical arrangement of population, settlements, agricultural and industrial land use and transportation in the world's major countries and regions. *Fall and spring.* Staff.

Courses for Graduates and Advanced Undergraduates

115 CLIMATES (Formerly 155) (3). Prerequisite, Geography 38 or permission of the instructor. Natural science credit. A descriptive and generic study of the climates of the earth. Emphasis is given to the imprint of climates upon the landscape, rather than to meteorological processes. *Spring.* Staff.

117 SOILS (3). Prerequisites, Geology 11, Chemistry 11-12 and/or permission of the instructor. Natural science credit. A study of the nature and geographic distribution of the soils of the world, with special emphasis on southeastern United States. (1966-1967 and alternate years.) *Three hours of lecture a week, in addition to field work, fall.* Staff.

121 PHYSIOGRAPHY OF THE WESTERN UNITED STATES (3). Prerequisites, Geography 38, Geology 11, or permission of the instructor. Natural science credit. Landforms and Pleistocene history of the western United States, including Alaska. *Fall.* Staff.

122 PHYSIOGRAPHY OF THE EASTERN UNITED STATES (Geology 122) (3). Prerequisites, Geology 11 and 104 and/or permission of the instructor. Natural science credit. (1965-1966 and alternate years.) *Spring.* White.

132 LAND UTILIZATION AND SOIL CONSERVATION (3). Prerequisites, Geography 38 and Geology 11, or permission of the instructor. A study of the history of agricultural land utilization as background to an understanding of current land-use types. (1965-1966 and alternate years.) *Spring.* Staff.

151 URBAN GEOGRAPHY (3). A geographical study of the spatial structure and function of urban settlements. Emphasis on the regional relations of cities and central place theory. *Fall.* Browning.

152 ECONOMIC GEOGRAPHY (3). A study of the distribution, production, and utilization of the world's basic commodities. *Fall.* Basile.

153 POLITICAL GEOGRAPHY (3). Geographic elements in contemporary national and international affairs. Case studies are in Eurasia and Africa. *Fall and spring.* Eyre.

154 HISTORICAL GEOGRAPHY OF THE UNITED STATES (3). A study of selected past geographies of the United States with emphasis on the consideration of significant geographic changes through time. *Fall.* De Vorsey.

155 GEOGRAPHY OF RURAL SETTLEMENT (3). Prerequisites, Geography 48 or 152, junior standing, or consent of the instructor. Description and analysis of the primary patterns of rural settlement morphology and the settling process in selected areas of the world. (1967-1968 and alternate years.) *Spring.* Smith.

156 GEOGRAPHY OF NATURAL RESOURCES (3). An analysis of selected natural resources with emphasis on distributions, use, management policy and conservation. Primary considerations given to the resources of Anglo-America. *Fall.* Smith.

157 REGIONAL GEOGRAPHY OF NORTH AMERICA (3). A regional geography of America north of the Rio Grande, including elements of the physical, economic and cultural environment. *Fall and spring.* Smith.

158 REGIONAL GEOGRAPHY OF EUROPE (3). A survey of Europe west of the Soviet Union with an intensive study of the countries of western Europe. *Spring.* De Vorsey.

159 REGIONAL GEOGRAPHY OF SOUTH AMERICA (3). A study of the environment, resources and activities of continental South America. *Fall.* Basile.

160 REGIONAL GEOGRAPHY OF MIDDLE AMERICA (3). A correlation of the environment, resources and activities of the mainland countries from Mexico to Panama as well as of the Caribbean islands. *Spring.* Basile.

161 REGIONAL GEOGRAPHY OF THE SOUTH (Formerly 131) (3). Present-day southern United States, approached historically through a study of its physical, economic, and cultural environment. *Spring.* Staff.

165 REGIONAL GEOGRAPHY OF THE USSR (Formerly 175) (3). Factors influencing the location of Soviet agriculture, industry, and population. The geographical character of individual regions. *Fall.* Lonsdale.

166 REGIONAL GEOGRAPHY OF EASTERN ASIA (Formerly 181) (3). Geographical arrangements of population and human activities in their physical setting in China, Japan, and Korea. *Fall.* Eyre.

167 REGIONAL GEOGRAPHY OF SOUTHERN ASIA (Formerly 182) (3). Geographical arrangement of population and human activities in their physical setting in India, Pakistan, Ceylon, and the countries of Southeast Asia. *Spring.* Eyre.

171 CARTOGRAPHY (3). Introduction to maps and map-making, stressing drafting techniques, map design, and methods of representing data on maps. *One lecture and four laboratory hours a week. Fall and spring.* Lonsdale.

178 INTERPRETATION OF AERIAL PHOTOGRAPHY (3). Prerequisite, Geography 38, or permission of the instructor. An introduction to photographic interpretation techniques and applications. *Fall and spring.* De Vorsey.

179 FIELD METHODS (3). Prerequisite, Geography 178. *Spring.* Staff.

183 INDUSTRIAL LOCATION (Formerly 162) (3). Factors in the regional location of manufacturing, location theory, measures of manufacturing, locational decision-making, and a geographic survey of selected industries. *Spring.* Lonsdale.

190 QUANTITATIVE METHODS IN GEOGRAPHY (3). Introduction to the application of statistical methods to geographic situations. Special attention is given to problems of analysis of areal data, areal sampling and spatial series. *Fall.* Browning.

Courses for Graduates

201 DEVELOPMENT OF GEOGRAPHIC THOUGHT (3). Examination of geography as an academic discipline and geographic concepts from the Greek period to the present. Particular attention is given to the regional concept. *Fall.* Lonsdale.

205 ADVANCED QUANTITATIVE METHODS IN GEOGRAPHY (3). (1966-1967 and alternate years.) *Spring.* Browning.

211 SPECIAL WORK IN GEOGRAPHY (2 or more). Prerequisites, Geography 38 and two courses in the one hundred bracket. *On demand.* Staff.

252 ADVANCED ECONOMIC GEOGRAPHY (3). (1966-1967 and alternate years.) Spring. Basile.

301 SEMINAR IN RURAL LAND USE (3). Basile, Smith.

302 SEMINAR IN PRIMARY MATERIALS (3). Basile, Smith.

303 SEMINAR IN INDUSTRIAL LOCATION (3). Lonsdale.

304 SEMINAR IN POLITICAL GEOGRAPHY (3). Eyre.

305 SEMINAR IN HISTORICAL GEOGRAPHY (3). De Vorsey.

306 SEMINAR IN REGIONAL GEOGRAPHY (3). Staff.

307 SEMINAR IN URBAN GEOGRAPHY (3). Browning.

308 SEMINAR IN PHYSICAL GEOGRAPHY (3). Staff.

311 RESEARCH IN GEOGRAPHY (2 or more). *On demand.* Staff.
abcdefgh
- a. Economic Geography (Rural Land Use)
- b. Economic Geography (Primary Materials)
- c. Economic Geography (Industrial)
- d. Political Geography
- e. Historical Geography
- f. Regional Geography
- g. Urban Geography
- h. Physical Geography

393 MASTER'S THESIS (3 or more). *Fall and spring.* Members of the graduate faculty.

394 DOCTORAL DISSERTATION (3 or more). *Fall and spring.* Members of the graduate faculty.

400 GENERAL REGISTRATION (0).

DEPARTMENT OF GEOLOGY

Professors: V. I. MANN, *Chairman,* G. R. MACCARTHY, *Emeritus,* R. L. INGRAM, J. ST. JEAN, JR., W. A. WHITE
Associate Professors: J. R. BUTLER, W. H. WHEELER
Assistant Professors: D. E. DUNN, *Assistant Chairman,* P. C. RAGLAND, D. A. TEXTORIS
Visiting Professors: H. J. BISSELL, W. S. GLOCK
Visiting Assistant Professor: J. W. MINEAR
Visiting Instructor: J. J. B. Worth
Teaching Fellow: H. A. CURRAN
Graduate Assistants: P. H. BENSON III, P. J. BEYER, J. J. CABAUP, J. E. CALLAHAN, J. E. CUNLIFFE, P. S. GRZYBEK, J. W. HELWIG, G. JAGANNADHAM, P. J. JUSTUS, R. E. LEMMON, W. M. MALLORY, A. F. RANDAZZO, R. C. REPSHER, P. J. ROPER, A. C. STAHELI, J. G. SULLIVAN, P. A. THAYER, P. W. WEIGAND

The course requirements for the A.B. degree with major in geology are as follows: (1) three to five courses in geology in addition to Geology 11, 42, 101, 110, and 111; (2) five to seven courses in allied sciences, including two courses each in introductory chemistry and physics (which may be taken in the General College); (3) five to seven courses outside the Division of Natural Sciences. The A.B. program is not considered sufficient training for professional work in geology.

For B.S. in Geology the following are required:

GENERAL COLLEGE

For freshman and sophomore years, see "General College," Part III.

JUNIOR YEAR

Geology 103, 128, 129, and one of the following: Geology 104, 105, 106, 108, 109, 142, 144
Mathematics 31, 32
Physics 24, 25
Humanities elective
Two nondivisional electives

SENIOR YEAR

Three of the following: Geology 104, 105, 106, 108, 109, 142, 144
Mathematics 33
English 33
Three nondivisional electives
One of the following: Chemistry 43, 51, 61; Zoology 11, 106; Physics 54-55, 61, 103, 105, 106, 107

GRADUATE DEGREES IN GEOLOGY

Unless taken as an undergraduate, the following are required of all candidates for graduate degrees in geology: Geology 101, 103, 104, 105, 106, 108, 109, 110, 111, 128, 129; Mathematics through integral calculus; one year of college physics; one year of college chemistry. Exceptions to the above policy can be made for students whose undergraduate degrees are in fields other than geology.

Courses for Undergraduates

11 PHYSICAL GEOLOGY (4). Nature and origin of minerals and rocks, volcanoes, earthquakes, interior of the earth, mountains, soil, subsurface water, coastal features, landscape, and the geologic work of glaciers, streams, and wind. *Three lecture and two laboratory hours a week, fall and spring.* Staff.

41 PHYSICAL GEOLOGY FOR SCIENCE MAJORS (4). Open to all students majoring or intending to major in the Division of Natural Science, and to students with high school earth science credit or permission of the instructor. An interdisciplinary approach to physical geology emphasizing the principles of physics, chemistry, and mathematics which are pertinent to earth science. Recommended for those students intending to major in geology. Credit cannot be received for both Geology 11 and Geology 41. *Three lecture and two laboratory hours a week, fall and spring.* Staff.

42 HISTORICAL GEOLOGY (4). Prerequisite, Geology 11 or 41. The geologic history of the earth as recorded in the rocks and the fossils they contain. The development of life on earth from its ancient beginnings through prehistoric man. *Three lecture and two laboratory hours a week, fall and spring.* Wheeler, St. Jean, Textoris.

98 HONORS COURSES[1] (3). *Fall and spring.* Staff.
99

Courses for Graduates and Advanced Undergraduates

101 MINERALOGY (4). Prerequisites, Chemistry 11 and Geology 11 or 41. *Two lecture and six laboratory hours a week, fall.* Butler.

103 STRUCTURAL GEOLOGY (5). Prerequisites, Geology 11 or 41. *Three lecture and six laboratory hours a week, fall.* Dunn.

104 GEOMORPHOLOGY (4). Prerequisite, Geology 11 or 41. *Three lecture and two laboratory hours a week, spring.* White.

105 STRATIGRAPHY (4). Prerequisite, Geology 42. *Three lecture and two laboratory hours a week, spring.* Wheeler.

106 INVERTEBRATE PALEONTOLOGY (4). Prerequisite, Geology 42. *Three lecture and two laboratory hours a week, fall.* St. Jean.

1. See requirements in College of Arts and Sciences.

108 ECONOMIC GEOLOGY (4). Prerequisites, Geology 103, 110, 111. A study of mineral deposits. *Three lecture and two laboratory hours a week, fall.* Mann.

109 ELEMENTS OF GEOPHYSICS (4). Prerequisites, Geology 103, general physics. *Three lecture and two laboratory hours a week, spring.* MacCarthy.

110 IGNEOUS AND METAMORPHIC ROCKS (3). Prerequisites, Geology 101, Geology 42, or permission of the instructor. The megascopic description and the origin of the igneous and metamorphic rocks. *Two lecture and three laboratory hours a week, spring.* Ragland.

111 SEDIMENTARY ROCKS (2). Prerequisites, Geology 101, Geology 42, or permission of the instructor. The megascopic description and the origin of the sedimentary rocks. *One lecture and two laboratory hours a week, spring.* Textoris.

115 GEOLOGIC HISTORY OF THE VERTEBRATES (3). Prerequisite, Geology 42 or Zoology 41. (1967-1968 and alternate years.) *Fall.* Wheeler.

117 CLAY MINERALOGY (4). Prerequisites, Geology 110 and 111. Includes X-ray diffraction studies of clay minerals. (1966-1967 and alternate years.) *Two lecture and four laboratory hours a week, spring.* Ingram.

122 PHYSIOGRAPHY OF THE EASTERN UNITED STATES (3). Prerequisites, Geology 11 or 41, Geology 104, or permission of the instructor. (1967-1968 and alternate years.) *Fall.* White.

128 SUMMER FIELD COURSES IN GEOLOGY (8). Prerequisites, Geology 101,
129 103, 110, 111. *Equivalent to eight hours a week for one semester.* Dunn, Butler.

142 PRINCIPLES OF GEOCHEMISTRY (4). Prerequisites, Geology 11 or 41, Chemistry 21, or permission of the instructor. (1967-1968 and alternate years.) *Three lecture and three laboratory hours a week, spring.* Ragland.

144 OPTICAL MINERALOGY (4). Prerequisites, Geology 101, 110, 111. *Two lecture and six laboratory hours a week, fall.* Mann, Ragland.

145 ELEMENTARY PETROGRAPHY AND PETROLOGY (4). Prerequisites, Geology 110, 144. *Two lecture and six laboratory hours a week, spring.* Butler.

166 VULCANOLOGY (3). Prerequisite, Geology 11 or 41. This course serves as an introduction to vulcanism and related phenomena. (1968-1969 and alternate years.) *Fall.* MacCarthy.

167 EARTHQUAKES AND RELATED PHENOMENA (3). Prerequisite, Geology 11 or 41. Earthquakes: their causes and effects; methods of investigation; the theory and operation of seismic recording devices. (1968-1969 and alternate years.) *Fall.* MacCarthy.

Courses for Graduates

221 ADVANCED STRUCTURAL GEOLOGY (3 each). Prerequisites, Mathe-
222 matics 33, Geology 103. (1966-1967 and alternate years.) *Three lecture hours a week, fall and spring.* Dunn.

224 ADVANCED ECONOMIC GEOLOGY (Non-metals) (4). Prerequisites, Geology 105, 108, 110, 111. (1966-1967 and alternate years.) *Three lecture and three laboratory hours a week, spring.* Mann.

225 ADVANCED ECONOMIC GEOLOGY (Metals) (4). Prerequisites, Geology 108, 110, 111. (1967-1968 and alternate years.) *Three lecture and three laboratory hours a week, spring.* Mann.

242 PHYSICAL GEOCHEMISTRY (4). Prerequisites, Geology 142, Mathematics 33. (1966-1967 and alternate years.) *Three lecture and three laboratory hours a week, fall.* Ragland.

243 ANALYTICAL GEOCHEMISTRY (4). Prerequisites, Geology 142, Chemistry 43. (1966-1967 and alternate years.) *Three lecture and three laboratory hours a week, spring.* Ragland.

244 ADVANCED PETROLOGY (4 each). Prerequisites, Geology 144, 145.
245 (1967-1968 and alternate years.) *Two lecture and six laboratory hours a week, fall and spring.* Butler.

247 SEDIMENTATION (4). Prerequisites, Geology 105, 106, 111. *Three lecture and three laboratory hours a week, fall.* Ingram.

248 SEDIMENTARY PETROLOGY (4). Prerequisites, Geology 144, 247, or permission of instructor. *Three lecture and three laboratory hours a week, spring.* Textoris.

250 ADVANCED SEDIMENTATION (3). Prerequisites, Geology 247, 248, or permission of instructor. (1967-1968 and alternate years.) *Spring.* Ingram.

251 ADVANCED SEDIMENTARY PETROLOGY (3). Prerequisites, Geology 247, 248, or permission of instructor. (1966-1967 and alternate years.) *Fall.* Textoris.

261 APPLIED GEOPHYSICS (4 each). Prerequisites, Geology 109, Mathematics
262 33. (1967-1968 and alternate years.) *Two lecture and six laboratory hours a week, fall and spring.* MacCarthy.

265 THE PHYSICS OF THE EARTH: GEODYNAMICS (3 or 4). Prerequisite, Geology 103, or permission of the instructor. (1967-1968 and alternate years.) *Spring.* MacCarthy.

271 ADVANCED GEOMORPHOLOGY (4 each). Prerequisites, Geology 103,
272 104, or permission of the instructor. (1966-1967 and alternate years.) *Fall and spring.* White.

281 ADVANCED STRATIGRAPHY (4 each). Prerequisites, Geology 105, 106.
282 (1966-1967 and alternate years.) *Fall and spring.* Wheeler.

285 ADVANCED INVERTEBRATE PALEONTOLOGY (4 each). Prerequisite,
286 Geology 106. (1967-1968 and alternate years.) *Three lecture and three laboratory hours a week, fall and spring.* St. Jean.

288 MICROPALEONTOLOGY (4 each). Prerequisite, Geology 106. (1966-
289 1967 and alternate years.) *Three lecture and three laboratory hours a week, fall and spring.* St. Jean.

301 SEMINAR (1 or more).

Research Courses

These courses are intended for applicants for advanced degrees and consist of laboratory work and conferences with the professor in charge of the work Studies may be continued in each of these courses under the same number with a sub-letter designation.

321 RESEARCH IN STRUCTURAL GEOLOGY (2 or more). Dunn.

329 RESEARCH IN ECONOMIC GEOLOGY (2 or more). Mann.

341 RESEARCH IN MINERALOGY (2 or more). Mann, Butler.

342 RESEARCH IN GEOCHEMISTRY (2 or more). Ragland.

348 RESEARCH IN SEDIMENTATION (2 or more). Ingram, Textoris.

349 RESEARCH IN PETROLOGY (2 or more). Mann, Butler.

351 RESEARCH IN SEDIMENTARY PETROLOGY (2 or more). Textoris.

361 RESEARCH IN GEOPHYSICS (2 or more). MacCarthy.

371 RESEARCH IN GEOMORPHOLOGY (2 or more). White.

381 RESEARCH IN STRATIGRAPHY (2 or more). Wheeler.

389 RESEARCH IN PALEONTOLOGY (2 or more). St. Jean, Wheeler.

393 MASTER'S THESIS (2 or more).

394 DOCTORAL DISSERTATION (2 or more).

400 GENERAL REGISTRATION (0).

DEPARTMENT OF GERMANIC LANGUAGES

Professors: H. W. REICHERT, *Chairman,* G. S. LANE,[1] W. P. FRIEDERICH,[1] F. E. COENEN, J. G. KUNSTMANN
Associate Professor: R. T. TAYLOR[2]
Assistant Professors: RIA STAMBAUGH, SIDNEY SMITH
Lecturer: HARRY BERGHOLZ
Instructors: INGEBORG DENT, R. S. DUNHAM, JR., VALLIN D. ESTES, JR., F. C. GRAHAM
Part-time Instructors: RICHARD BORTH, JAMES CAMPBELL, JUNE CAMPBELL, EMMI COLTON, ALEXANDER DUNLOP, REBECCA FORRESTER, CAROL GAAR, JAMES HARDIN, JR., GÜNTER KLABES, GLENN C. MARTIN, POPE MCCLUNG, RENATE MORRIS, CORNELIA SNIDER, JOSEPH WHITE, IV
Laboratory Instructors: JOERG FICHTE, DONALD LINEBACK, RHEAMAN WOOD
Teaching Fellow: HAROLD FRY

Students interested in having their undergraduate major in German should consult the departmental adviser in the second semester of their sophomore year, if possible. The departmental requirement for the undergraduate major consists of eight courses in addition to German 21: German 22, 31, 90, 137, 145, plus a minimum of three literature courses from the 100 bracket. The Department offers to qualified undergraduate majors an opportunity to work for honors. Prospective candidates for honors should see the departmental adviser at the beginning of their junior year.

Courses for Undergraduates

1-2 ELEMENTARY GERMAN[3] (6) Both semesters. Taylor, Stambaugh; instructors.

1. Kenan Professor.
2. Absent on leave, 1966-1967.
3. Upper-college students who have completed the language requirements are allowed credit for a single elementary language course, i.e., 1 or 2 in the 1-2 series.

3-4 INTERMEDIATE GERMAN[4] (6). Both semesters. Taylor, Stambaugh; instructors.

21 ADVANCED GERMAN (3). Prerequisite, German 4 or equivalent. Reading of selected modern prose after 1880. *Both semesters.* Reichert, Taylor, Stambaugh.

22 ADVANCED GERMAN (3). Prerequisites, German 4 or equivalent and permission of departmental adviser. Reading of prose selected from the general areas of German Classicism, Romanticism, and Poetic Realism (ca. 1770 to ca. 1870). *Both semesters.* Reichert, Taylor, Stambaugh.

31 CONVERSATIONAL GERMAN (3). Prerequisite, German 4 or equivalent. *Fall.* Stambaugh.

32 ADVANCED CONVERSATIONAL GERMAN (3). Prerequisite, German 31 or permission of instructor. *Spring.* Stambaugh.

90 ADVANCED GERMAN GRAMMAR (3). Prerequisite, German 22 or equivalent. Review, expansion, and drill. Required of undergraduate majors and candidates for advanced degrees in German. The course yields no credit for the latter. *Fall.* Taylor, Stambaugh.

98 HONORS COURSE (3 each). Reading and special studies under the direc-
99 tion of departmental advisers. *Fall and spring.*

Courses Without Credit for Graduate Students

101x ELEMENTARY GERMAN FOR GRADUATE STUDENTS (no credit).
102x These courses are designed for preparation for reading knowledge examinations for higher degrees. Passing of the examination at the end of 102x will certify that this requirement has been satisfied. *Three hours a week, both semesters.* Reichert; instructors.

Courses for Graduates and Advanced Undergraduates

103 EXERCISES IN STYLISTICS (3). Prerequisites, German 32 and 90, or equivalents. A *rigorosum* in advanced oral and written composition. Open to undergraduate majors in German on permission of the departmental adviser. Required of candidates for advanced degrees in German. *Spring.* Stambaugh.

109 GERMAN PROSE IN THE NINETEENTH CENTURY (3). Prerequisite, German 22 or equivalent. Study of the major prose writers of the nineteenth century. Readings, lectures, and reports. *Fall.* Coenen.

111 GERMAN DRAMA IN THE NINETEENTH CENTURY (3). Prerequisite, German 22 or equivalent. Kleist, Grabbe, Büchner, Grillparzer, Hebbel, Ludwig. Readings, lectures, and reports. *Spring.* Coenen.

115 THE GERMAN LYRIC FROM HÖLDERLIN TO THE PRESENT (3). Prerequisite, German 22 or equivalent. An analysis of the chief lyric poets, movements, and types of the past one hundred and fifty years. *Fall.* Reichert.

121 GOETHE'S EARLY WORKS (TO THE ITALIAN JOURNEY) (3). Prerequisite, German 22 or equivalent. Study of his early life. Reading and interpretation of representative works. Lectures and reports. *Fall.* Coenen.

122 GOETHE'S LATER WORKS (3). Prerequisite, German 22 or equivalent. Goethe's life and works from 1788 to 1832, with special emphasis on *Wilhelm Meister* and *Faust* and on Goethe's attitude towards Napoleonic Wars and Romanticism. *Spring.* Friederich.

4. German 3 and 4 may be taken separately for credit by properly qualified students who have fulfilled their language requirements.

131 GERMAN LITERATURE OF THE EIGHTEENTH CENTURY (3). Prerequisite, German 22 or equivalent. The various literary trends of the eighteenth century (exclusive of Goethe and Schiller), with special emphasis on Lessing, Wieland, Klopstock, and Herder. *Spring.* Friederich.

137 SURVEY OF GERMAN LITERATURE (Comparative Literature 137) (3). Not open to graduate students in German. *Fall.* Reichert.

141 SCHILLER (3). Prerequisite, German 22 or equivalent. (1) Life and time; (2) dramatic works; (3) philosophic and aesthetic theory. *Spring.* Reichert.

145 GERMAN PHONETICS (3). Prerequisite, German 31. A course in German pronunciation and phonetics for prospective teachers of German. Required of undergraduate majors and candidates for advanced degrees in German. *Fall.* Coenen.

152 THE GERMAN NOVEL SINCE 1890 (3). Prerequisite, German 22 or equivalent. A survey of eminent German novelists since Fontane, including among others Thomas and Heinrich Mann, Hesse, Kafka, Musil, Broch, Werfel, Wiechert, Böll, Frisch and Grass. *Fall.* Reichert.

153 THE GERMAN DRAMA SINCE 1890 (3). Prerequisite, German 22 or equivalent. A comprehensive survey of modern German dramatists from Hauptmann to Brecht, Frisch and Dürrenmatt. *Spring.* Reichert.

155 GOETHE IN ENGLISH TRANSLATION (Comparative Literature 155) (3). *Fall.* Friederich.

161 HISTORY OF THE GERMAN LANGUAGE (3). Prerequisite, a good reading knowledge of German. *Spring.* Smith.

171 GERMAN CIVILIZATION (3). Lectures given in German. Germany's cultural achievements in broad outline. *Fall.* Friederich.

181 ELEMENTARY NORWEGIAN (6). Prerequisites, satisfactory knowledge
182 of German (represented by German 21 or equivalent) and permission of the instructor. Rapid introduction to modern Norwegian (bokmaal) with particular emphasis on reading. 181, *fall;* 182, *spring.* Smith.

187 INTRODUCTION TO MODERN SCANDINAVIAN LITERATURE (3). Prerequisite, junior standing or higher. An introduction to nineteenth-century and twentieth-century Scandinavian literature (in translation) with particular reference to the work of Ibsen and Strindberg, and modern fiction. *Fall.* Bergholz.

191 TEACHING METHODS AND MATERIALS (3). For prospective teachers of German. *Fall of alternate years.* Reichert.

Courses for Graduates

201 MATERIALS AND METHODS OF RESEARCH (3). *Fall.* Kunstmann.

210 OLDER GERMAN LITERATURE TO 1050 (3). Continental Germanic and German literature from its beginning to the end of the Old High German period. *Spring.* Kunstmann.

221 GOTHIC (3). Grammar and analysis of selections from the Gothic Bible. Comparison with other Germanic Languages, particularly Old English and Old High German. *Spring.* Lane.

222 OLD HIGH GERMAN (3). Grammar and reading of selected texts from Braune's *Althochdeutsches Lesebuch.* Lectures on historical phonology and morphology. *Fall.* Lane.

223 COMPARATIVE GERMANIC GRAMMAR (3). Prerequisite, previous study of at least two older Germanic Languages. *Spring, on demand.* Lane.

232 OLD SAXON (3). Grammar and readings from the *Heliand.* Especial attention paid to the relationship with Old English on the one hand and Old High German on the other. *One semester, on demand.* Lane.

233 OLD NORSE (ICELANDIC) (3 each). Grammar and readings from the
234 prose *Edda* and the Icelandic sagas. *Fall and spring of 1967-1968.* Lane.

235 MIDDLE HIGH GERMAN GRAMMAR (3). *Fall.* Lane.

236 MIDDLE HIGH GERMAN LITERATURE (3). Reading of selections from masterpieces of medieval German literature 1100-1300. *Spring.* Kunstmann.

240 READING COURSE (3 each). A course designed to fill certain lacunae in
241 a candidate's training. Reading, reports, brief discussions. *Fall and spring.* Staff.

252 LATE MEDIEVAL AND REFORMATION LITERATURE (3). German literature from ca. 1300 to 1575, with special emphasis on Humanism and Reformation. *Fall.* Kunstmann.

253 GERMAN LITERATURE FROM 1575 TO 1730 (3). German literature, its problems and its spiritual and historical background from Fischart through the Baroque Century to Gottsched. *On demand.* Friederich.

270 GENERAL INTRODUCTION TO GERMAN VOLKSKUNDE (3). A reading knowledge of French is desirable but not necessary. A survey of the fields of German literary and non-literary *Volkskunde* with special attention to *Märchen* and *Sprichwort. Fall.* Kunstmann.

272 THE GERMAN VOLKSLIED (3). Survey of German *Volkslied* studies from the eighteenth century to the present; theories concerning the provenance of the *Volkslied*; special attention to the interrelation of *Volkslied* and *Kunstlied. Fall.* Kunstmann.

340 SEMINAR IN OLDER GERMAN LITERATURE (3 each). *On demand.*
341 Kunstmann.

342 SEMINAR IN GERMAN VOLKSKUNDE (3 each). *On demand.* Kunstmann.
343

345 SEMINAR IN GERMAN LITERATURE (3 each). Specific problems con-
346 nected with major figures of the 17th or 18th centuries. *On demand.* Friederich.

350 SEMINAR IN GERMAN LITERATURE (3 each). Problems arising in the
351 following areas: (a) Romantic literature, (b) Drama and dramatists, (c) Life and works of Heinrich von Kleist, (d) Life and works of Franz Grillparzer, (e) Life and works of Friedrich Hebbel. *On demand.* Coenen.

355 SEMINAR IN GERMAN LITERATURE (3 each). Philosophical influences
356 on German Classicism and Romanticism. Literary problems since 1850. *On demand.* Reichert.

361 SEMINAR IN LINGUISTICS (3 each). *On demand.* Lane.
362

395 RESEARCH (3). Staff.

400 GENERAL REGISTRATION (0).

GREEK

(See Classics)

HEBREW

(See Romance Languages)

DEPARTMENT OF HISTORY

Professors: J. L. GODFREY,[1] *Chairman,* W. W. PIERSON,[2] F. M. GREEN,[3] H. T. LEFLER,[4] C. H. PEGG,[5] CECIL JOHNSON,[6] J. C. SITTERSON,[7] J. W. PATTON,[8] H. A. BIERCK, C. O. CATHEY,[9] F. W. KLINGBERG, E. P. DOUGLASS, G. B. TINDALL, E. E. KRAEHE, G. V. TAYLOR, R. M. MILLER, S. B. BAXTER

Associate Professors: H. C. BOREN, F. W. RYAN, JR. (and Modern Civilization), C. M. FOUST, H. L. BODMAN, JR., Y. C. WANG,[10] P. F. WALKER[11] (and Modern Civilization), JOSEF ANDERLE,[11] J. R. WILLIAMSON (and Modern Civilization), J. M. HEADLEY

Assistant Professors: J. K. NELSON, F. O. BEHRENDS, P. J. PINCKNEY (and Modern Civilization), J. E. SEMONCHE (and Modern Civilization), R. L. WOODWARD, JR., M. R. MCVAUGH, S. F. WELLS, JR., W. R. FALLAW (and Modern Civilization), C. G. STRICKLEN, C. E. EDMONDSON (and Modern Civilization), G. T. CELL (and Modern Civilization), R. H. PULLEY

Instructors: L. D. KESSLER, R. W. LOTCHIN (and Modern Civilization), T. S. MORGAN (and Modern Civilization)

Lecturers: B. B. SCHNORRENBERG (and Modern Civilization), E. S. NATHANS (and Modern Civilization)

Part-time Lecturer: W. S. POWELL

Teaching Fellows: J. A. HUTCHESON, J. S. MATTSON

Graduate Assistants: J. G. BLACKBURN, R. C. BOWDEN, B. A. BROWNELL, A. M. BURNS, J. C. CASHION, S. A. CHANNING, H. J. COUNIHAN, PETER DELEON, M. W. DOLS, J. L. HUMBER, ANNELIESE KENNEDY, E. H. MCGEE, J. N. MORRIS, M. A. PITONIAK, D. B. SAUNDERS, R. G. SHERER, H. E. SISKRON, S. S. SMITH, S. T. SPEARE, OREST SUBTELNY, J. B. THOMAS, J. W. TITUS, G. W. TROXLER, H. H. WALSH, J. W. WASSON, T. H. WATKINS, E. D. WATSON, W. S. WEST

Modern Civilization Staff

Associate Professors: J. R. CALDWELL, F. W. RYAN, JR. (and History), P. F. WALKER (and History), J. R. WILLIAMSON (and History)

Assistant Professors: P. J. PINCKNEY (and History), J. E. SEMONCHE (and History), W. R. FALLAW (and History), C. G. STRICKLEN, JR., C. E. EDMONDSON, G. T. CELL (and History), K. R. NELSON

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1. Distinguished University Professor.
2. Kenan Professor, died April 23, 1966.
3. Kenan Professor, absent on leave, spring semester, 1967.
4. Kenan Professor.
5. Alumni Distinguished Professor of History.
6. On part-time duty.
7. Kenan Professor and Chancellor.
8. Director of the Southern Historical Collection.
9. Dean of Student Affairs.
10. Absent on leave, 1966-1967.
11. Absent on leave, fall semester, 1966-1967.

Instructors in Modern Civilization Affiliated with the Department of History: T. S. Morgan (and History), Gordon Robertson, Jr., R. W. Lotchin (and History)

Instructor in Modern Civilization Affiliated with the Department of Political Science: J. W. Dimmick

Lecturers: W. M. Geer, B. B. Schnorrenberg (and History), E. S. Nathans (and History)

Part-time Instructors: M. V. C. Alexander, J. M. Allgood, D. E. Becker, G. L. Belcher, M. S. Berry, R. I. Birchall, B. J. Brandon, M. J. Bratton, L. S. Butler, J. B. Cameron, Jr., N. L. Erickson, P. A. Fenix, L. E. Griffin, B. F. Griffith, R. K. Hill-Brown, J. L. Jackson, J. H. Killian, Jr., S. D. Knisley, W. H. Longton, J. W. Marcum, M. M. Merwin, D. E. Milteer, G. H. Mueller, J. D. Neville, J. C. Riley, W. R. Sanders, L. E. Schmier, L. F. Snow, H. B. Taylor, Jr., W. P. Tuck, J. B. Wilson, C. W. Wood, Jr.

The undergraduate major program in history is designed to train the mind in the study of human affairs, to prepare candidates for graduate training in history, and to provide a general foundation suitable for a variety of occupations. It will consist of eight to ten courses, six of which must be chosen from those numbered from 50 to 199, and the student must elect a concentration of at least five courses in either (1) American-Latin American History or (2) European-English-Asian History. At least six of the major courses taken while the student is enrolled in the College of Arts and Sciences must be completed with grades of *C* or better.

Honors courses in history (97, 98, and 99) carry full credit toward the major and are open to students who have previously distinguished themselves. Admission to the honors courses is based upon an over-all average of *B* or better, recommendation from a member of the Department, and approval by the Chairman of the Departmental Honors Committee. Students successfully completing the honors program are entitled to graduate "with honors" or "with highest honors," as recommended by the Department.

Courses for Undergraduates

1-2 MODERN CIVILIZATION (6). Freshman requirement. Prerequisite to all other courses in history. *Three hours a week, fall and spring.* Staff.

30 RUSSIA FROM EARLIEST TIMES TO THE EMANCIPATION OF THE SERFS, 862-1861 (3). Open to sophomores, juniors, and seniors. *Fall.* Foust.

31 HISTORY OF RUSSIA FROM 1861 TO THE PRESENT (3). Open to sophomores, juniors, and seniors. *Spring.* Anderle.

41 ANCIENT HISTORY (3). Sophomore elective, open to juniors and seniors. *Fall.* Boren.

42 MEDIEVAL HISTORY (3). Sophomore elective, open to juniors and seniors. *Spring.* Behrends.

44 ENGLISH HISTORY TO 1714 (3). Sophomore elective, open to juniors and seniors. *Fall.* Schnorrenberg, Pinckney.

45 ENGLISH HISTORY SINCE 1714 (3). (Either 44 or 45 may be taken separately.) Sophomore elective, open to juniors and seniors. *Spring.* Pinckney, Schnorrenberg.

46 LATIN AMERICAN HISTORY: COLONIAL AND REVOLUTIONARY PERIODS (3). Sophomore elective, open to juniors and seniors. *Fall.* Bierck, Woodward.

47 LATIN AMERICAN STATES DURING THE NATIONAL PERIOD (3). Sophomore elective, open to juniors and seniors. *Spring.* Bierck.

48 MODERN EUROPEAN HISTORY, 1500-1815 (3). Sophomore elective, open to juniors and seniors. *Both semesters.* Staff.

49 MODERN EUROPEAN HISTORY SINCE 1815 (3). Sophomore elective, open to juniors and seniors. *Both semesters.* Staff.

51 HISTORY OF THE ANCIENT NEAR EAST (3). Junior-senior elective, open to sophomores. *Spring.* Boren.

52 HISTORY OF GREECE (3). Junior-senior elective, open to sophomores. *Fall.* Boren.

53 HISTORY OF ROME (3). Junior-senior elective, open to sophomores. *Spring.* Boren.

65 EUROPE IN THE HIGH MIDDLE AGES, 900-1300 (3). Junior-senior elective, open to sophomores. *Fall.* Behrends.

67 THE MIDDLE EAST—THE RISE OF ISLAMIC CIVILIZATION (3). Junior-senior elective, open to sophomores. *Fall.* Bodman.

68 MIDDLE EAST—MODERN PERIOD (3). Junior-senior elective, open to sophomores. *Spring.* Bodman.

69 THE HISTORY OF AFRICA: A SURVEY (3). Junior-senior elective, open to sophomores. *Spring.* Bodman.

71 AMERICAN HISTORY TO 1865: GENERAL COURSE (3). Junior-senior elective, open to sophomores. *Both semesters.* Staff.

72 AMERICAN HISTORY SINCE 1865: GENERAL COURSE (3). Junior-senior elective, open to sophomores. *Both semesters.* Staff.

75 AMERICAN BIOGRAPHY (3). Junior-senior elective, open to sophomores. *Spring.* Walker.

83 HISTORY OF THE FAR EAST I (3). Junior-senior elective, open to sophomores. *Fall.* Wang, Kessler.

84 HISTORY OF THE FAR EAST II (3). Junior-senior elective, open to sophomores. *Spring.* Wang, Kessler.

85 THE UNITED STATES IN THE PACIFIC AREA (3). *Fall.* Miller

96 PROBLEMS IN AMERICAN HISTORY (3). A pro-seminar for history majors. *Spring.* Miller.

97 INTRODUCTORY HONORS COURSE (3). Required of all students reading for honors in history. *Both semesters.* Bodman.

98 SENIOR HONORS COURSE (3). Required of all students wishing to graduate with honors in American or European history. *Both semesters.* Staff.

NOTE: Courses in Directed Teaching of the Social Sciences and in Materials and Methods of Teaching the Social Sciences will be found under the School of Education.

Courses for Graduates and Advanced Undergraduates

107 HISTORY OF ROME, 133-27 B. C. (3). *Fall.* Boren.

109 GREEK AND ROMAN HISTORICAL LITERATURE (Classics 109) (3). *Spring.* Allen (of the Department of Classics).

110 EUROPEAN COLONIZATION OF AMERICA (3). Not open to graduate majors in American history. *Fall.* Nelson.

111 EARLY AMERICAN HISTORY, 1689-1789 (3). Not open to graduate majors in American history. *Spring.* Lefler, Nelson.

112 UNITED STATES HISTORY, 1789-1848 (3). Not open to graduate majors in American history. *Fall.* Cathey.

113 UNITED STATES HISTORY, 1848-1900 (3). Not open to graduate majors in American history. *Both semesters.* Klingberg, Miller.

114 UNITED STATES HISTORY, 1900-1932 (3). Not open to graduate majors in American history. *Fall.* Miller; *spring.* Wells, Sitterson.

115 UNITED STATES HISTORY SINCE 1932 (3). Not open to graduate majors in American history. *Spring.* Wells

121 MEDIEVAL THOUGHT AND LEARNING (3). (1966-1967 and alternate years.) *Fall.* Behrends.

122 EUROPE IN THE EARLY MIDDLE AGES (3). (1967-1968 and alternate years.) *Fall.* Behrends.

123 HISTORY OF SPAIN (3). *Fall.* Woodward.

124 THE RENAISSANCE (3). *Fall.* Headley.

125 INTELLECTUAL AND SOCIAL HISTORY OF EUROPE, EARLY PERIOD (3). *Fall.* Headley.

126 INTELLECTUAL HISTORY OF EUROPE SINCE THE FRENCH REVOLUTION (3). (1966-1967 and alternate years.) *Spring.* Kraehe.

128 EUROPE UNDER THE OLD REGIME, 1715-1787 (3). *Fall.* Taylor.

130 EUROPEAN FOUNDATIONS OF MODERN EDUCATION (Education 142) (3). *Fall.* King, Holton, Phillips (of the School of Education).

131 THE REFORMATION (3). *Spring.* Headley.

132 THE RISE OF ABSOLUTISM IN EUROPE (3). (1966-1967 and alternate years.) *Spring.* Headley.

133 EUROPE IN AN AGE OF REVOLUTION, 1787-1815 (3). *Spring.* Taylor.

134 EUROPE, 1815-1870 (3). *Fall.* Kraehe.

135 EUROPE FROM 1870 TO 1918 (3). (1967-1968 and alternate years.) *Spring.* Kraehe.

136 EUROPE SINCE 1918 (3). *Fall.* Pegg.

137 MEDIEVAL ENGLAND (3). (1966-1967 and alternate years.) *Fall.* Baxter.

138 TUDOR AND STUART ENGLAND, 1485-1660 (3); *Fall.* Baxter.

139 ENGLAND IN THE EIGHTEENTH CENTURY, 1660-1815 (3). *Spring.* Baxter.

140 GREAT BRITAIN FROM 1815 TO 1901 (3). *Fall.* Godfrey.

141 GREAT BRITAIN FROM 1901 TO THE PRESENT (3). *Spring.* Godfrey.

142 DEVELOPMENT OF THE ENGLISH CONSTITUTION (Political Science 154) (3). *Fall.* Godfrey.

143 THE DIPLOMATIC HISTORY OF THE UNITED STATES, 1776-1914 (3). *Fall.* Johnson, Wells.

144 THE DIPLOMATIC HISTORY OF THE UNITED STATES, 1914 TO THE PRESENT (3). *Spring.* Johnson, Wells.

145 THE HISTORY OF AMERICAN IDEAS, 1607-1860 (3). *Fall.* Douglass.

146 THE HISTORY OF AMERICAN IDEAS, 1860 TO THE PRESENT (3). *Spring.* Miller.

150 HISTORY OF SCIENCE: ARISTOTLE TO GALILEO (3). *Fall.* McVaugh.

151 HISTORY OF SCIENCE: GALILEO TO EINSTEIN (3). *Spring.* McVaugh.

152 TOPICS IN THE HISTORY OF SCIENCE (3). Permission of the instructor. One year of college physics or history of science advantageous. *Spring.* McVaugh.

159 THE BRITISH COMMONWEALTH OF NATIONS (Political Science 159) (3). *Spring.* Cell.

161 NORTH CAROLINA I, 1524-1835 (3). Open only to seniors and graduate students. *Fall and spring.* Lefler, Powell.

162 NORTH CAROLINA II, 1835 TO THE PRESENT (3). Open only to seniors and graduate students. *Both semesters.* Lefler, Patton.

163 THE OLD SOUTH (3). *Both semesters. Fall.* Green; *spring.* Williamson.

164 THE SOUTH SINCE RECONSTRUCTION (3). *Fall and spring.* Tindall.

167 ECONOMIC HISTORY OF THE UNITED STATES, 1607-1865 (3). *Spring.* Cathey.

168 ECONOMIC HISTORY OF THE UNITED STATES SINCE 1865 (3). *Spring.* Douglass.

170 SOCIAL AND EDUCATIONAL HISTORY OF THE UNITED STATES (Education 143) (3). *Spring.* King, Holton, Phillips (of the School of Education).

171 ARGENTINA, BRAZIL, AND CHILE (3). (1967-1968 and alternate years.) *Fall.* Woodward.

172 INTER-AMERICAN ECONOMIC AND CULTURAL RELATIONS (3). (1966-1967 and alternate years.) *Fall.* Bierck.

173 THE BOLIVARIAN STATES SINCE INDEPENDENCE (3). (1967-1968 and alternate years.) *Fall.* Bierck.

174 HISTORY OF MEXICO (3). *Fall.* Bierck.

175 THE CONSTITUTION OF THE UNITED STATES (Political Science 155) (3). *Both semesters.* Wallace (of the Department of Political Science).

176 ECONOMIC HISTORY OF LATIN AMERICA SINCE 1760 (3). *Spring.* Woodward.

177 CENTRAL AMERICA AND THE CARIBBEAN SINCE 1821 (3). *Spring.* Woodward.

180 RUSSIA, 1500-1796 (3). *Fall.* Anderle.

181 RUSSIA, 1796-1917 (3). *Spring.* Foust.

182 THE SOVIET UNION, 1917-1939 (3). *Fall.* Foust.

183 THE SOVIET UNION, 1939-PRESENT (3). *Spring.* Foust.

188 EASTERN EUROPE, 1815-1918 (3). *Fall.* Anderle.

189 EASTERN EUROPE SINCE 1918 (3). *Spring.* Anderle.

190 THE MODERN MIDDLE EAST: A CULTURAL HISTORY (3). *Fall.* Bodman.

192 HISTORY OF CHINA, 1800-1914. *Fall.* Wang, Kessler.

193 HISTORY OF CHINA SINCE 1914 (3). *Spring.* Wang.

194 DIPLOMATIC HISTORY OF THE FAR EAST, 1800-1914 (3). *Fall.* Wang, Kessler.

195 DIPLOMATIC HISTORY OF THE FAR EAST SINCE 1914 (3). *Spring.* Wang.

Courses for Graduates

201 EUROPEAN HISTORIOGRAPHY[12] (3). *Fall.* Taylor.

202 AMERICAN HISTORIOGRAPHY[12] (3). *Fall.* Klingberg, Nelson.

203 TOPICS IN MODERN RUSSIAN HISTORY (3). *Fall.* Foust.

205 TOPICS IN EAST EUROPEAN HISTORY (3). *Spring.* Anderle.

206 HISTORY OF GREECE, 500-146 B.C. (3). (1966-1967 and alternate years.) *Spring.* Boren.

208 HISTORY OF ROME, 27 B.C.-180 A.D. (3). (1967-1968 and alternate years.) *Spring.* Boren.

224 THE FEUDAL MONARCHIES (3). *Spring.* Behrends.

233 PROBLEMS IN THE STUDY OF THE FRENCH REVOLUTION, 1789-1815 (3). *Spring.* Taylor.

234 READINGS IN EUROPEAN HISTORY (3). *Fall.* Kraehe.

235 PROBLEMS IN EUROPEAN HISTORY, 1817-1918 (3). (1967-1968 and alternate years.) *Spring.* Kraehe.

236 EUROPE BETWEEN THE TWO WORLD WARS (3). *Fall.* Pegg.

237 EUROPE SINCE WORLD WAR II (3). *Spring.* Pegg.

238 POLITICAL AND INTELLECTUAL HISTORY OF ENGLAND UNDER THE TUDORS AND THE STUARTS (3). Prerequisite, History 138. (1967-1968 and alternate years.) *Fall.* Baxter.

249 CIVILIZATION IN THE AMERICAN COLONIES, 1607-1775 (3). (1966-1967 and alternate years.) *Fall.* Lefler.

250 THE AMERICAN REVOLUTIONARY ERA, 1763-1789 (3). (1967-1968 and alternate years.) *Fall.* Lefler.

251 THE FEDERAL PERIOD, 1776-1815 (3). (1966-1967 and alternate years.) *Fall.* Douglass.

252 THE MIDDLE PERIOD, 1815-1860 (3). *Fall.* Williamson.

254 CIVIL WAR AND RECONSTRUCTION, 1860-1876 (3). (1966-1967 and alternate years.) *Spring.* Klingberg.

255 FOUNDATIONS OF MODERN AMERICA (3). (1967-1968 and alternate years.) *Fall.* Tindall.

12. Candidates for advanced degrees will take 201 if their major is in European area, 202 if their major is in American area.

256 RECENT AND CONTEMPORARY UNITED STATES (3). (1966-1967 and alternate years.) *Spring.* Sitterson.

270 PROBLEMS IN LATIN AMERICAN HISTORY (3). *Spring.* Bierck, Woodward.

301 ANCIENT HISTORY (3). Conference and reports. *Spring.* Boren.

311 MEDIEVAL HISTORY (3). A reading knowledge of Latin is required. Conference and reports. *Fall.* Behrends.

319 EARLY MODERN EUROPEAN HISTORY (3). Seminar. *Spring.* Headley.

320 EIGHTEENTH-CENTURY EUROPE (1715-1815) (3). Seminar. *Fall.* Taylor.

321ab RECENT EUROPEAN HISTORY (3 each). Seminar. *Fall and spring.* Pegg.

322ab TUDOR-STUART ENGLAND (3 each). Seminar. *Fall and spring.* Baxter.

323ab MODERN ENGLISH HISTORY (3 each). Seminar. *Fall and spring.* Godfrey.

324ab SEMINAR IN EUROPEAN HISTORY, 1814-1918 (3 each). Conference and reports. *Fall and spring.* Kraehe.

325 SEMINAR IN MODERN RUSSIAN HISTORY (3). Conference and reports. *Spring.* Foust.

326 SEMINAR IN ASIAN HISTORY (3). Prerequisite, permission of the instructor. *Spring.* Wang.

327 SEMINAR IN EAST EUROPEAN HISTORY (3). *Fall.* Anderle.

331 AMERICAN COLONIAL HISTORY (3). Seminar. *Fall.* Lefler.

332 THE EARLY NATIONAL PERIOD, 1783-1815 (3). (1967-1968 and alternate years.) *Fall.* Douglass.

333 THE NATIONAL PERIOD, 1815-1860 (3). (1966-1967 and alternate years.) *Spring.* Cathey.

335ab THE SECTIONS AND THE NATION (3 each). Conference and reports. *Fall and spring.* Green.

336ab CIVIL WAR AND RECONSTRUCTION (3 each). Seminar. *Fall and spring.* Klingberg.

337 RECENT HISTORY OF THE UNITED STATES (3). Seminar. (1967-1968 and alternate years.) *Spring.* Sitterson.

338 THE SOUTH SINCE RECONSTRUCTION (3). (1966-1967 and alternate years.) *Fall.* Tindall.

339 SOCIAL AND INTELLECTUAL HISTORY OF THE UNITED STATES (3). (1966-1967 and alternate years.) *Spring.* Miller.

370ab LATIN AMERICAN HISTORY (3 each). Seminars. *Fall and spring.* Bierck, Woodward.

393 MASTER'S THESIS (3). *Both semesters.* Members of graduate faculty.

394 DOCTORAL DISSERTATION (3). *Both semesters.* Members of graduate faculty.

400 GENERAL REGISTRATION (0).

DEPARTMENT OF INFORMATION SCIENCE

Professor: F. P. BROOKS, JR., *Chairman*
Adjunct Professor: M. S. DAVIS
Associate Professors: SALLY Y. SEDELOW, W. A. SEDELOW, JR.
Assistant Professor: C. V. PAGE
Visiting Assistant Professor: A. NAKAMURA
Adjunct Assistant Professor: D. N. FREEMAN
Lecturers: E. M. DANZIGER, J. W. HANSON
Research Associates: F. M. JOHNSON, ELIZABETH MOORE
Research Assistants: A. F. ACKERMAN, JR., D. T. COUGHLIN, J. P. JENRETTE, J. L. MORRIS III, W. SPEARY, JR., H. C. TAO
Teaching Assistants: J. H. AUSTIN, JR., JOAN N. BARDEZ, H. W. BUTTELMANN III, J. W. CROW, T. P. DEGNON, W. G. HICKOK, M. A. MCANULTY, L. G. OWENS, J. S. PROKOP, R. J. SCOTT, JR.

The Department of Information Science offers instruction and performs research in the theory, techniques, and applications of automatic information processing and computing. Although primarily a graduate department, it offers basic courses to advanced undergraduates majoring in other fields and to those preparing to do graduate work in Information Science.

Information Science 10 is the introductory course in computer use. It is prerequisite to all other courses in this discipline and is open to all undergraduates. We especially urge that this be taken in the freshman or sophomore year. The several sections of Information Science 10 teach the same programming skills and language, but examples, exercises, and projects are specialized by section according to the field of computer application. Sections in applications to mathematics, business, social sciences, and the humanities are offered.

Many undergraduates, especially mathematics, business, and science majors, are interested in acquiring bachelor-level vocational competence in computer use. For mathematics and science majors, we recommend Information Science 10, 100, and 150 as a minimum sequence for vocational qualification. For business majors, we recommend Information Science 10, 100, and 130 as a minimum sequence. Either of these sequences can be substantially strengthened by adding Information Science 101.

The basic preparation for advanced work in Information Science is Information Science 100 and 101, the latter a course in programming systems and advanced programming techniques. Elementary linguistics is also recommended, as is mathematical preparation through advanced calculus.

Course for Undergraduates

10 INTRODUCTION TO DIGITAL COMPUTER USAGE (Mathematics 21) (3). Preparation for use of digital computers in the social and natural sciences and the humanities. *Two hours per week, fall and spring.* Hanson, S. Sedelow, W. Sedelow; staff.

Courses for Graduates and Advanced Undergraduates

100 FUNDAMENTALS OF INFORMATION PROCESSING (Mathematics 169) (Linguistics 105) (3). Prerequisites, Mathematics 1 and 2 or equivalents; Information Science 10 or equivalent (may be satisfied by special examination). Mathematical foundations of information processing, representation, encoding, logic of switching, organization of computer systems, representation of information structures, design of algorithms, searching, sorting, programming systems and language. *Fall and spring.* Page, Brooks.

101 METAPROGRAMS (Linguistics 106) (4). Prerequisite, Information Science 100. Structure and design of programs which process programs. Assemblers, interpreters, compilers, generators, input-output control systems, supervisors. Formal programming languages, syntactic description, symbolic functions and manipulations. *Three lecture and two laboratory hours, spring.* Brooks.

103 INFORMATION SYSTEMS IN HUMANISTIC AND SOCIAL SCIENCE RESEARCH (Sociology 103) (3). An introduction to computer hardware and software systems, with an emphasis upon their use in the Humanities and the Social Sciences. Computer programming, with practice on the computer, will be stressed. *Fall.* Sedelow.

104 SYMBOLIC LOGIC (Philosophy 101) (Linguistics 104) (3). Introductory. *Fall.* Heintz.

105 INTERMEDIATE SYMBOLIC LOGIC (Philosophy 111) (3). Presupposes propositional and quantificational logic and basis for further deductive development, with special attention to selected topics among the following: alternative systems, logical grammar of formalized languages, logical and semantical paradoxes, and foundations of mathematics. *Spring.* Heintz.

108 INTRODUCTION TO DESCRIPTIVE LINGUISTICS (Linguistics 100) (3). *Fall.* Marten.

110 PHILOSOPHY OF LANGUAGE (Philosophy 110) (Linguistics 110) (3). A study of important contemporary contributions in philosophy of language meaning, reference, and truth. *Spring.* Travis.

115 'NATURAL' LANGUAGE OF SYNTACTIC ANALYSERS (3). Prerequisite, Information Science 103 or Information Science 10 or passing a programming examination. A study of computer-based syntactic analysis, including efforts directed toward mechanical translations from one 'natural' language to another. Individual and group projects on specific syntactic problems, including special purpose parsing systems. *Spring.* Sedelow.

117 COMPUTATION STYLISTICS (3). Prerequisite, Information Science 10 or Information Science 103 or passing a programming examination. The use of the computer in the specification and discrimination of stylistic patterns in literature, musical compositions, paintings and other aesthetic artifacts, as well as in cultural configurations, personality attributes, social discourse, etc. Computer programming for individual or group projects. *Fall.* Sedelow.

130 BUSINESS DATA PROCESSING (4). Prerequisite, Information Science 100. Manual, semi-automatic, and automatic systems for the routine processing of data. Accounting concepts and data-processing implications. Organization of sequential and direct access files. Checking and control techniques. Students in small teams will study actual business applications and recommend data processing systems. *Three lecture and two laboratory hours, spring.* Danziger.

150 INTRODUCTION TO NUMERICAL ANALYSIS (Mathematics 170) (3). Prerequisites, Mathematics 32 and Information Science 10. Truncation, rounding error, error propagation. Interpolation, quadrature, integration of differential equations. Solution of equations. Matrix inversion. *Spring.* Page.

160 INTRODUCTION TO AUTOMATIC DIGITAL CONTROL (4). Prerequisites, Information Science 100 and 150. Principles of servomechanisms, feedback, response speed, stability, realizability, accuracy. Digital control techniques, sample-data systems, Z-transform methods. (1966-1967 and alternate years.) *Three lecture and two laboratory hours, fall.* Coulter.

Courses for Graduates

202 SEMINAR IN THEORETICAL TOPICS I (3). Prerequisite, Information Science 101. Advanced topics in switching theory, theory of automata, and information theory (especially topics outside the statistical theory of communication). (1966-1967 and alternate years.) *Fall.* Page.

203 SEMINAR IN THEORETICAL TOPICS II (3). Prerequisite, Information Science 202. (1966-1967 and alternate years.) *Spring.* Page.

204 TUTORIAL IN ARCHITECTURE OF COMPUTERS (3). Prerequisites, Information Science 101 and permission of instructor. A course of independent study consisting of prescribed reading, exercises, tutorial conferences, and the architectural design of a small machine. Each student will deliver a public lecture on his work. Introduction to computer architecture, storage, accessing, bussing, and addressing arithmetic and logical units; sequential control principles, concurrency; input-output systems and devices. (1965-1966 and alternate years.) *Fall and spring.* Brooks.

205 COMBINATORIAL MATHEMATICS (Statistics 321—subset of Statistics 251) (2). *Fall.* Bose.

206 INFORMATION THEORY (Statistics 252) (3). Prerequisite, Statistics 132; corequisite or prerequisite, Statistics 212. (1966-1967 and alternate years.) *Spring.* Bose.

207 ERROR CORRECTING CODES (Statistics 253) (3). Prerequisite, Statistics 251. (1966-1967 and alternate years.) *Spring.* Bose.

208 SIMULATION THEORY (Business Administration 208) (3). Prerequisite, permission of the instructor. Theory and techniques of simulation and gaming, and their use for investigating multivariable interrelationships in complex systems. *Spring.* DesJardins.

210 PROCESSING OF NATURAL AND ARTIFICIAL LANGUAGES (Linguistics 210) (4). Prerequisite, Information Science 101. Introduction to techniques of automatic processing of natural language texts; input editing for errors, dictionary and concordance design and construction. Syntactical analysis, parsing, ambiguity, statistical methods, output editing and formating. Design and processing of artificial language; formal syntactic and semantic descriptions, symbols, structure and problems of scope. Recursive definitions, character sets, passing of parameters, efficiency of translation. (1966-1967 and alternate years.) *Three lecture and two laboratory hours, fall.* Brooks.

211 TUTORIAL IN INFORMATION RETRIEVAL (3). Prerequisites, Information Science 210 and permission of instructor. A course of independent study consisting of prescribed reading, exercises, tutorial conferences, and a small project. Each student will deliver a public lecture on his work.

Introduction to storage, classification, and automatic retrieval of information; errors, key variants, multi-key files, indexing lattices, searching strategy. (1966-1967 and alternate years.) *Spring.* Brooks.

215 RESEARCH SEMINAR FOR THE HUMANIST AND SOCIAL SCIENTIST (3). Prerequisite, Information Science 10 or Information Science 103 or passing a programming examination. Research on problems suited to the interests of the seminar members. 'Natural' language problems will be emphasized. *Spring.* Sedelow.

230 METHODS OF OPERATIONS RESEARCH (Statistics 202) (3). Prerequisite, Statistics 135. *Fall.* Nicholson, Smith.

250 SEMINAR IN NUMERICAL ANALYSIS (3). Prerequisites, Information Science 150 and permission of instructor. A course of independent and small group study consisting of prescribed reading, exercises, tutorial and seminar conferences, and a substantial computer problem. Advanced topics in numerical analysis, and a more thorough investigation of the mathematical content of elementary topics. (1965-1966 and alternate years.) *Fall.* Brooks.

301 SEMINAR IN TEACHING AND PROFESSIONAL PRACTICE I (1). Prerequisites, major in Information Science and Information Science 101. The teaching of Information Science. *Fall.* Brooks.

302 SEMINAR IN TEACHING AND PROFESSIONAL PRACTICE II (1). Prerequisites, major in Information Science, Information Science 301. The role and responsibilities of the information scientist in a corporate environment and as a consultant. Professional ethics. *Spring.* Brooks.

393 MASTER'S THESIS (3-6). Brooks.

400 GENERAL REGISTRATION (0).

SCHOOL OF JOURNALISM

Professors: W. A. DANIELSON, *Dean,* C. P. RUSSELL,[1] WALTER SPEARMAN, N. N. LUXON, J. B. ADAMS, K. R. BYERLY, J. L. MORRISON, J. J. MULLEN
Associate Professor: S. W. SECHRIEST
Assistant Professor: D. L. SHAW
Lecturer: M. F. ETHRIDGE
Research Assistants: W. D. BRYANT, J. D. DUPREE, C. C. FLIPPEN, W. S. NYE, M. T. O'KEEFE, D. H. RIDINGS, D. E. STILES, R. H. WIMMER

Courses in the School of Journalism are open to juniors, seniors, and graduate students in the University who meet the prerequisites or obtain permission of the instructor or the Dean.

Journalism courses by arrangement with the College of Arts and Sciences have been grouped into three categories: (1) Courses allied to Humanities; (2) Courses allied to the Social Sciences; and (3) Professional courses. Students enrolled in the College of Arts and Sciences may elect courses in the first two categories, but they may not take courses in the Professional category for credit toward a degree in the College of Arts and Sciences without prior approval by the Administrative Board of the College of Arts and Sciences.

1. Professor, Emeritus.

Humanities-allied courses are 53, 56, 58, 60, 73, and 111. Those in the Social Science category are 54, 146, 161, 165, 184, and 191. Professional courses are 55, 57, 59, 74, 80, 96, 97, 98, 99, 170, 171, 172, and 173.

Journalism students interested in International Studies may take many of the courses in that curriculum, including the "core courses," in meeting journalism requirements in history and political science and as electives. Those interested should consult the Dean of the School of Journalism or the journalism adviser on International Studies.

Curriculum leading to the degree Bachelor of Arts in Journalism: The General College requirements for Journalism students are the same as those required of other candidates for the Bachelor of Arts degree. In addition, Journalism students should take Political Science 41 as their third social science requirement in General College. Students are required to take, in addition to Political Science 41, introductory courses in two of the following fields: economics, sociology, or psychology. Psychology 26 would serve to satisfy part of this requirement as well as meeting the biological laboratory science requirement. Students are urged to complete the prerequisite social science courses in the sophomore year; otherwise they must be completed in the junior year.

The professional program of the School of Journalism consists of eight to ten journalism courses, four of which are specified; two American history or North Carolina history courses; Political Science 41; two advanced courses in any one of four social science departments: economics, political science, psychology, or sociology. Prerequisites for these advanced courses are respectively: Economics 31 and 32 or 61, Political Science 41, Psychology 26, or Sociology 51.

The four journalism courses required of all candidates for the Bachelor of Arts in Journalism degree are 53, News Writing; 57, News Editing; 161, History of Journalism; and 184, The Press, the Constitution, and the Law.

Journalism assignments must be typewritten; therefore it is essential that each student be able to type with reasonable skill.

A student may earn the A.B. in Journalism with a double major by taking at least three courses more than the minimum required for the usual A.B. and by meeting all major requirements in the School of Journalism and the other discipline.

An honors program is available to students who have demonstrated their ability to perform distinguished work in journalism. Admission to the honors courses (98 and 99) is based upon an over-all average of *B* or better, recommendation from a faculty member in the School, and approval by the Chairman of the honors program. Students successfully completing the honors program are graduated "with honors" or "with highest honors," as recommended by the School.

Students who have an undergraduate major in journalism or the equivalent may earn the Master of Arts degree with a major in journalism through the Graduate School. Areas of interest include advertising, theories of communication, research methods in mass communication, the audiences and effects of the mass media, history of journalism, and international communication and comparative (foreign) journalism.

The School of Journalism is the administrative center for an interdepartmental program leading to the Ph.D. degree with a major in Mass Communication Research. Course schedules are arranged on an individual basis; interested students should consult the Dean.

A graduate minor in journalism is also available for candidates for the A.M. and Ph.D. degrees in English, history, political science, psychology, and sociology, and the M.A. in Communication.

Students interested in the graduate program may obtain additional information from the School of Journalism Bulletin, the Graduate School Catalogue, or by consultation with the Dean of the School of Journalism.

Courses for Undergraduates

53 NEWS WRITING (3). Prerequisites, sophomore standing and ability to type. Study of the elements of news stories, writing of leads, and organization of news stories, supplemented by assignments on *The Daily Tar Heel*. *One lecture and four laboratory hours a week, fall and spring.* Staff.

54 REPORTING OF PUBLIC AFFAIRS (3). Prerequisite, Journalism 53. Instruction and experience in the reporting of local, state, and federal courts, and municipal, county, state, and federal government. *Fall and spring.* Morrison.

55 ADVANCED REPORTING (3). Prerequisite, Journalism 53; Journalism 54 recommended. Students work with reporters on area newspapers and write stories independently on assignment, thereby gaining experience under actual working conditions. *One conference and eight laboratory hours a week, fall and spring.* Byerly, Spearman.

56 FEATURE WRITING (3). Instruction and practice in writing feature articles for newspapers and magazines. *Fall and spring.* Morrison.

57 NEWS EDITING (3). Prerequisite, Journalism 53. Study and practice in copyreading, headline writing, proofreading; with attention given to printing terminology, page makeup, type structure, and analysis of newspapers. *One lecture and four laboratory hours a week, fall and spring.* Sechriest.

58 EDITORIAL WRITING (3). Practice in writing editorials for daily and non-daily newspapers. *Fall and spring.* Spearman.

59 COMMUNITY JOURNALISM (3). News, editorial, advertising, circulation, personnel, and other problems and policies of weekly, semi-weekly, and small daily newspapers; field trips, practical experience. *Spring.* Byerly.

60 BOOK REVIEWING AND DRAMATIC CRITICISM FOR NEWSPAPERS (3). Historical background of criticism; examination of contemporary reviewing techniques, and writing of reviews of books, plays, motion pictures, concerts, and art exhibits. *Fall and spring.* Spearman.

73 RADIO AND TELEVISION JOURNALISM (3). Class members write and edit copy for the air, this work supplemented by experience gained writing news copy used by the University's radio station, WUNC. *Fall.* Morrison.

74 WRITING FOR BUSINESS AND PROFESSIONAL PUBLICATIONS (3). Subject matter includes trade journals, house organs, and publicity. Students query business paper editors by mail, write and sell articles. *Spring.* Morrison.

80 NEWS PHOTOGRAPHY (3). Instructor's permission necessary. A study of press camera techniques, various photographic situations, and darkroom procedures. Assignments include problems dealing with photographic composition, pictures by existing light, depth of field, synchronized flash, and action photography. *Two lecture and three laboratory hours a week, fall and spring.* Sechriest.

96 NEWSPAPER MANAGEMENT (3). Prerequisite, senior standing. Problems and policies of managing news and editorial, advertising, promotion, circulation, accounting, business and production departments on daily newspapers. Attention paid to records and costs systems, labor relations, the newspaper's relationship with its community and its responsibility in the field of public affairs. *Fall and spring.* Ethridge.

97 INDIVIDUAL STUDY (3). Prerequisites, senior standing and permission of instructor. An individual readings and problems course to be directed by the staff member in whose field of interest the subject matter lies. *Fall and spring.* Staff.

98 INTRODUCTORY HONORS COURSE (3). Required of all students reading for honors in journalism. *Fall.* Luxon.

99 HONORS ESSAY COURSE (3). Required of all students reading for honors in journalism. *Spring.* Luxon.

Courses for Graduates and Advanced Undergraduates

111 THE MASS MEDIA AND AMERICAN POPULAR CULTURE (3). Prerequisite, one course in American history. A study of the cultural origins of the mass media, their impact on traditional culture, and the emergence of a modern popular culture with manifold implications. *Fall.* Morrison.

146 INTERNATIONAL COMMUNICATION AND COMPARATIVE JOURNALISM (Political Science 146) (3). Development of international communication; the flow of news and international propaganda; the role of communication in international relations; communication in the developing nations; comparison of press systems. *Fall.* Adams.

161 HISTORY OF JOURNALISM (3). A history of United States newspapers from 1690 to the mid-twentieth century with some attention to magazines and class periodicals. *Fall and spring.* Luxon, Morrison.

165 COMMUNICATION AND OPINION (Psychology 165) (Sociology 165) (3). Prerequisites, any two of the following courses: Psychology 26, Political Science 41, Sociology 51. A survey of the methods, findings, and conjectures of behavioral scientists working in the field of persuasive communication. *Spring.* Danielson.

170 PRINCIPLES OF ADVERTISING (3). A survey of the economics, psychology, philosophy, and history of advertising, with particular reference to research bases, copy, layout, media planning, production, and testing of advertisements. *Fall and spring.* Mullen.

171 ADVERTISING COPY AND COMMUNICATION (3). Prerequisite, Journalism 170 or Business Administration 161, or equivalent. Application of findings from social science research; social responsibility of the copywriter and advertiser; preparation of advertisements for the mass media; research in copy testing. *One lecture and four laboratory hours a week, fall.* Mullen.

172 ADVERTISING MEDIA (3). Prerequisite, Journalism 170 or Business Administration 161, or equivalent. The media planning function in advertising for both buyers and sellers of media; the relationships among media, messages, and audiences; research studies in media analysis. *Two lecture and two laboratory hours a week, spring.* Mullen.

173 ADVERTISING CAMPAIGNS (3). Prerequisite, Journalism 171 or 172. Planning and executing advertising campaigns; types and methods of advertising research; the economic function of advertising in society. *Spring.* Mullen.

184 THE PRESS, THE CONSTITUTION, AND THE LAW (3). The concept of freedom of the press and its development under the Constitution of the United States and state and federal laws. Governmental regulations affecting the press. Libel, contempt, right of privacy, inspection of public records, copyright, and other laws. *Fall and spring.* Adams.

191 FUNCTIONS AND RESPONSIBILITIES OF CONTEMPORARY JOURNALISM (3). Prerequisites, senior standing and permission of instructor for non-majors. Study of functions and responsibilities of newspapers, radio, television, and magazines as media of mass communication in modern society with emphasis on the role of the press. *Fall and spring.* Luxon, Shaw.

Courses for Graduates

251 MEDIA RESEARCH METHODS (Radio, Television, and Motion Pictures 251) (3). Prerequisite, graduate standing in Journalism or Radio, Television, and Motion Pictures. Bibliography; elements of experimental design and survey research methodology; audience studies and audience measurement problems; content analysis; representative studies. *Fall.* Danielson.

301 SEMINAR IN HISTORY OF AMERICAN JOURNALISM (3). A study of American journalism, covering individual editors, newspapers, magazines, or segments of the press. *On demand.* Luxon.

318 SEMINAR IN THEORIES OF COMMUNICATION (3). Prerequisites, graduate standing in Journalism, Sociology, or Psychology, and Journalism 165 or a course in Social Psychology. The class will examine various theoretical formulations concerning the communication process. Material will be drawn from sociological theory, learning theory, psycho-linguistics, and information theory. An attempt will be made to synthesize a meaningful and useful set of propositions concerning communication. (1967-1968 and alternate years.) *Spring.* Danielson.

340 SEMINAR IN MEDIA ANALYSIS (Psychology 340) (Sociology 340) (3). Prerequisites, graduate standing in Journalism, Psychology, Sociology, or Anthropology, and permission of the instructor. Students will participate in the design and execution of a media research project. (1968-1969 and alternate years.) *Spring.* Danielson.

345 READING AND RESEARCH (3). Prerequisite, graduate standing in Journalism or Radio, Television, and Motion Pictures. Advanced reading or research in a selected field. *Fall and spring.* Graduate faculty.

346 SEMINAR IN INTERNATIONAL COMMUNICATION (Political Science 346) (3). Prerequisite, Journalism 146, Political Science 146, or permission of instructor. A study of the field of international communication, with emphasis on propaganda theory and practice, world information agencies and their audiences, and effects of both inter-personal and mass communication at the international level. *Spring.* Adams.

393 MASTER'S THESIS (3 or 6). *Fall and spring.* Graduate staff.

394 DOCTORAL DISSERTATION. *Fall and spring.* Graduate staff.

400 GENERAL REGISTRATION (0).

LATIN

(See Classics)

SCHOOL OF LAW

By special arrangement with the College of Arts and Sciences, the School of Law offers two introductory survey courses in legal institutions for undergraduates of the University. These two courses are offered as electives to undergraduates, juniors, and seniors.

81 LEGAL INSTITUTIONS I (3). A survey of the evolution of legal institutions within the structures of government in North Carolina. Emphasis on development of the North Carolina forms from the larger English and American experience, with particular attention to the origin and development of the Anglo-American common law tradition. *Spring and fall of 1967.* Coates.

82 LEGAL INSTITUTIONS II (3). Recommended that this be preceded by Legal Institutions I. A study of the operation of legal institutions within the framework of government, using the contemporary North Carolina model. Particular consideration is given to the special problems generated by their simultaneous operation at local, state, and federal levels. *Spring of 1968.* Coates.

SCHOOL OF LIBRARY SCIENCE

Professors: SUSAN G. AKERS,[1] LUCILE K. HENDERSON,[1] L. R. WILSON[2]
Associate Professors: MARGARET E. KALP, *Acting Dean,* B. L. GAMBEE
Assistant Professors: F. J. HEINRITZ, DORALYN J. HICKEY, R. A. MILLER
Lecturers: R. L. CARPENTER, JR.,[3] JEAN FREEMAN, RUTH E. STONE
Visiting Lecturers: ELIZABETH D. HODGES, FRED W. ROPER

Library Science 105, 107, 122, and 123 may be taken by advanced undergraduates in the College of Arts and Sciences with the approval of the Dean of the School of Library Science.

1. Professor and Dean, Emeritus.
2. Professor, Emeritus.
3. Absent on leave, fall semester, 1966-1967.

Library Science 93 may be taken only by students in the School of Education who are majoring in elementary education.

Library Science 100, 110, 120, 130, and 150 may be taken only by advanced undergraduates in the School of Education. From these courses and Library Science 122 and 123, the student may complete the eighteen semester hours which constitute the basic requirement for certification as a school librarian in North Carolina. Besides these library science courses, the student will take the courses in education required for certification and a major program as outlined under the "School of Education," in Part III. Library Science is not a major teaching field.

Courses for Undergraduates

934 SURVEY AND EVALUATION OF BOOKS AND RELATED MATERIALS FOR CHILDREN (3). *Fall and spring.* Hodges.

100 THE LIBRARY IN SOCIETY (3). *Fall and spring.* Gambee.

105 HISTORY OF BOOKS AND PRINTING (3). *Fall.* Miller.

107 CONTEMPORARY PUBLISHING AND THE BOOK INDUSTRY (3). *Fall.* Gambee.

110 BASIC REFERENCE SOURCES AND METHODS (3). *Fall and spring.* Roper.

120 SELECTION OF LIBRARY MATERIALS (3). *Fall.* Roper; *spring.* Gambee.

122 SELECTION OF BOOKS AND RELATED MATERIALS FOR YOUNG PEOPLE (3). *Fall.* Hodges.

123 SELECTION OF BOOKS AND RELATED MATERIALS FOR CHILDREN (3). *Fall and spring.* Stone.

130 ORGANIZATION AND OPERATION OF LIBRARY SERVICES (3). *Fall and spring.* Heinritz.

150 INTRODUCTION TO TECHNICAL SERVICES IN LIBRARIES (3). *Fall and spring.* Hickey.

4. Not included in the 18 semester hour program for school librarians; a special course for School of Education students majoring in elementary education.

DEPARTMENT OF LINGUISTICS, SLAVIC AND ORIENTAL LANGUAGES

Professors: URBAN TIGNER HOLMES,[1] GEORGE SHERMAN LANE,[2] NORMAN ELLSWORTH ELIASON,[3] JOHN ESTEN KELLER,[1] JAMES REUBEN GASKIN, *Chairman*,[3] HENRY RUDOLPH IMMERWAHR,[4] BERTHE MARIE MARTI,[4] T. ROBERT BROUGHTON[4]

Associate Professor: SIEGFRIED WENZEL[3]

Assistant Professors: VASA D. MIHAILOVICH, ANITA E. MARTEN, TADEUSZ ZDZISLAW GASINSKI, WILLIAM THOMAS BURKE, MARIA TSIAPERA

Lecturer: JOHN JOACHIM BOBKOFF

Part-time Instructor: LARRY H. MCREED

1. See Department of Romance Languages.
2. See Department of Germanic Languages.
3. See Department of English.
4. See Department of Classics.

The Department of Linguistics, Slavic and Oriental Languages offers graduate work leading to the degrees of Master of Arts and Doctor of Philosophy with a major in either linguistics or Slavic languages and literatures. The linguistics program is carried out in cooperation with the Departments of Anthropology, Classics, English, Germanic Languages, Information Science, Philosophy, Romance Languages, Sociology, and Statistics. The Slavic program also includes undergraduate work leading to a major for the Bachelor of Arts degree.

The graduate degree programs of students in the Department will meet the general requirements of the Graduate School plus certain departmental requirements. (For these the Catalogue of the Graduate School should be consulted.)

The undergraduate Slavic program leading to the Bachelor of Arts degree is made up of a series of courses in language and literature which give the student a knowledge of spoken and written Russian and of Russian literature. Courses in other Slavic languages are also available.

Theoretical and Methodological Courses for Graduates and Advanced Undergraduates

100 INTRODUCTION TO DESCRIPTIVE LINGUISTICS (Anthropology 113) (Information Science 108) (3). An introduction to American descriptive linguistic analysis in phonetics and phonemics, morphology, and syntax. Variant systems of phonetic transcription and phonological analysis: a balanced view of main competing theories of grammatical description. Consideration of other kinds of linguistic investigation, such as semology and paralinguistics. Applications to related fields. *Fall.* Burke.

101 INTRODUCTION TO HISTORICAL AND COMPARATIVE LINGUISTICS (Anthropology 114) (3). Prerequisite, Linguistics 100 or equivalent. Theories and methods of historical linguistics, with emphasis upon the Indo-European family. The nature of languages as diachronic systems; comparative analysis and historical reconstruction. Topics include the development of historical methods in relation to structuralism; language families; writing systems; phonological, grammatical, and semantic change; typological classification; dialectology; and glottochronology. *Spring.* Tsiapera.

103 PRINCIPLES OF STATISTICAL INFERENCE (Statistics 100) (3). (See Statistics 100 for description.) *Fall.* Nicholson.

104 SYMBOLIC LOGIC (Philosophy 101) (Information Science 104) (3). Introductory. *Fall.* Heintz.

105 FUNDAMENTALS OF INFORMATION PROCESSING (Information Science 100) (Mathematics 169) (3). Prerequisites, Mathematics 7 or equivalent; Information Science 10 or equivalent (may be satisfied by special examination). (See information Science 100 for description.) *Fall and spring.* Page, Brooks.

106 METAPROGRAMS (Information Science 101) (4). Prerequisite, Linguistics 105 (Information Science 100). (See Information Science 101 for description.) *Three lecture and two laboratory hours, spring.* Brooks.

110 PHILOSOPHY OF LANGUAGE (Philosophy 110) (Information Science 110) (3). (See Philosophy 110 for description.) *Spring.* Travis.

166 SOCIOLOGY OF LANGUAGE (Sociology 166) (3). (See Sociology 166 for description.) *Spring.* W. Sedelow.

Courses for Graduates

210 PROCESSING OF NATURAL AND ARTIFICIAL LANGUAGES (Information Science 210) (4). Prerequisite, Linguistics 106 (Information Science 101). (See Information Science 210 for description.) (1966-1967 and alternate years.) *Three lecture and two laboratory hours, fall.* Brooks.

213 PHONETICS AND PHONEMICS (Anthropology 213) (3). Problems of descriptive phonology for English and other languages. Phonetic discrimination, description, and transcription of vocal sounds; segmental and suprasegmental phonemic analysis; tonal structures; morphophonemic analysis. Variant phonological theories. (To be offered in Fall, 1967-1968, with Linguistics 100 as prerequisite or corequisite.) *Spring.* Tsiapera.

214 GRAMMATICAL ANALYSIS: MORPHOLOGY (Anthropology 214) (3). Prerequisite, Linguistics 100 or equivalent. Problems in morphological analysis for English and other languages. Methods of morphemic analysis, tagmemics, intonation morphemes, morphophonemic analysis. Morphemic theories in relation to syntax and in contrast to generative description. (To be offered in Spring, 1967-1968, with Linguistics 213 or equivalent as prerequisite.) *Fall.* Burke.

215 GRAMMATICAL ANALYSIS: SYNTAX (Anthropology 215) (3). Prerequisite, Linguistics 100 or equivalent. A comparative review of descriptive theories of syntax in relation to English and other languages. Immediate constituent analysis; analysis by functional elements and substitution-in-frames; tagmemics; phonologically based syntactic analysis; generative-transformational grammar; stratificational grammar; glossematics. (To be offered in Spring, 1967-1968, with Linguistics 214 as prerequisite or corequisite.) *Spring.* Burke.

293 FIELD METHODS IN PHONOLOGICAL ANALYSIS (Anthropology 293) (3). Prerequisites, Linguistics 213, 214, and 215. (Not offered in 1966-1967.) *Fall.* Staff.

294 FIELD METHODS IN GRAMMATICAL ANALYSIS (Anthropology 294) (3). Prerequisite, Linguistics 293, or permission of instructor. Eliciting, recording, and analysis of the languages of native informants. *Spring.* Burke.

361 SEMINAR IN LINGUISTICS (3). Prerequisite, permission of instructor. *Fall.* Tsiapera.

362 SEMINAR IN LINGUISTICS (3). Prerequisite, permission of instructor. *Spring.* Burke.

393 MASTER'S THESIS (3). *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION (3). *Fall and spring.* Staff.

Baltic

206 LITHUANIAN (3). Introduction to be historical grammar of the Baltic languages. *Fall, on demand.* Lane.

Celtic

105 CELTIC: OLD IRISH (3). Rapid sketch of morphology and readings in Old and Middle Irish, especially from Strachan, *Selections from the Tain.* Lectures on historical Irish grammar. *On demand.* Holmes.

106 CELTIC: OLD WELSH (3). Introduction to Modern and Middle Welsh. Texts: Evans, *A First Welsh Reader* and Strachan, *Introduction to Early Welsh.* Historical development of the Welsh language. *On demand.* Holmes.

Chinese

101 ELEMENTARY CHINESE (3). Prerequisite, junior standing or permission of the instructor. Introduction to Mandarin Chinese providing instruction in the basic grammar common to both the spoken and written language. Spoken Mandarin will be emphasized and text materials will be in romanization. A maximum of 100 basic characters will be introduced. *Five hours per week, three devoted to instruction in grammar and two to oral practice. Fall.* Marten.

102 ELEMENTARY CHINESE (3). Continued emphasis on spoken Mandarin but with accelerated presentation of characters. The aim is to present a total vocabulary of 600 characters by the end of the term. *Five hours per week, three devoted to grammar and two to oral practice and drill in the writing of characters. Spring.* Marten.

103 INTERMEDIATE CHINESE (3). Prerequisite, Elementary Chinese or permission of instructor. Second-year level of study of grammar of spoken language and written vernacular. Emphasis on reading and writing of characters. *Three hours per week, fall.* Marten.

104 INTERMEDIATE CHINESE (3). Continuation of preceding course. *Three hours per week, spring.* Marten.

110 ADVANCED CHINESE (3). Prerequisite, Intermediate Chinese or permission of instructor. Advanced readings in Chinese. *Three hours per week, fall.* Marten.

111 ADVANCED CHINESE (3). Continuation of preceding course. *Three hours per week, spring.* Marten.

Germanic

161 HISTORY OF THE GERMAN LANGUAGE (3). (1966-1967 and alternate years.) *Spring.* Lane.

221 GOTHIC (3). (1965-1966 and alternate years.) *Fall.* Lane.

222 OLD HIGH GERMAN (3). (1966-1967 and alternate years.) *Fall.* Lane.

223 COMPARATIVE GERMANIC GRAMMAR (3). *Spring, on demand.* Lane.

232 OLD SAXON (3). *Spring, on demand.* Lane.

233 OLD NORSE (3 each). (1965-1966 and alternate years.) *Fall and spring.*
234 Lane.

235 MIDDLE HIGH GERMAN (3). *On demand.* Lane.

237 OLD ENGLISH GRAMMAR AND READING (3). *Fall.* Eliason, Wenzel.

238 HISTORY OF THE ENGLISH LANGUAGE (3). Prerequisite, Linguistics 237 or permission of instructor. *Spring.* Eliason.

250 OLD ENGLISH: BEOWULF (3). Prerequisite, Linguistics 237. *Spring.* Eliason.

Greek and Latin

201 GREEK EPIGRAPHY (3). *One semester, on demand.* Immerwahr.

202 LATIN EPIGRAPHY (3). *One semester, on demand.* Immerwahr.

203 LATIN PALEOGRAPHY (3). *Spring, on demand.* Marti.

204 COMPARATIVE GRAMMAR OF GREEK AND LATIN (3). Designed not only for the student of Classics but also a basic course for students of comparative Indo-European grammar. (1965-1966 and alternate years.) *Spring, on demand.* Lane.

205 STRUCTURE AND HISTORY OF MODERN GREEK (3). An introduction to the structure of modern Demotic Greek and its place in Greek linguistic history since Attic-Ionic.

Indic

111 BEGINNING SANSKRIT (3 each). Grammar and readings from the epic
112 and didactic literature. Supplementary lectures intended to serve as a basis for Indo-European comparative grammar. *Fall and spring, on demand.* Lane.

201 ADVANCED SANSKRIT (3 each). Extensive reading from the Dhar-
202 maçāstra, the Sūtras, and Brāhmanas, and the Vedas. *Fall and spring, on demand.* Lane.

Romance

126 HISTORY OF THE FRENCH LANGUAGE (3). Prerequisite, French 72. *Spring.* Staff.

220 VULGAR LATIN (3). (1966-1967 and alternate years.) *Fall.* Holmes.

221 OLD FRENCH (3 each). *Fall and spring.* Holmes.
222

225 PROVENÇAL (3). (1965-1966 and alternate years.) *Spring.* Staff.

221 OLD ITALIAN (3). *Fall, on demand.* Holmes.

221 OLD SPANISH (3 each). *Fall and spring.* Keller.
222

221 OLD PORTUGUESE (3). (1965-1966 and alternate years.) *Spring.* Holmes.

324 ROMANCE PALEOGRAPHY (3). (1965-1966 and alternate years.) *Fall.* Holmes.

370 MINOR ROMANCE TONGUES (3). (1965-1966 and alternate years.) *Spring.* Holmes.

Semitic

101 ELEMENTARY ARABIC (3). *Fall and spring.* Tsiapera.
102

113 ELEMENTARY HEBREW (Religion 113-114) (3). *Fall and spring.* Staff.
114

Slavic and Russian

Polish

101 INTRODUCTION TO POLISH (6). Introduction to Polish phonology and
102 morphology, with attention to Polish-Russian structural and historical contrasts. Practice in reading, writing and speaking the language. (Not offered in 1967-1968.) *Fall and spring.* Gasinski.

103 READINGS IN POLISH LITERATURE (6). Introduction to masterpieces
104 of Polish literature in original. Gasinski.

Russian

1-2 ELEMENTARY RUSSIAN (6). Introductory course designed to lay foundation of grammar and to convey basic reading and pronunciation skills. *Three hours a week, through two semesters.* Staff.

3-4 INTERMEDIATE RUSSIAN (6). Grammar-translation work with increasing proportions of free reading and oral work. *Three hours a week, through two semesters.* Staff.

21 ADVANCED RUSSIAN (3 each). Prerequisite, Russian 4 or equivalent.
22 21: Selected readings of nineteenth- and twentieth-century prose, including expository and technical writings. 22: Rapid reading in nineteenth- and twentieth-century literature, including expository and technical writings, exercises in Russian syntax and its application to elementary composition and conversation. Conducted largely in Russian. 21, *fall;* 22, *spring.* Staff.

31 RUSSIAN CONVERSATION (3). Prerequisite, Russian 22 or equivalent. A course designed to develop conversational skills and facility of expression in a variety of social situations and subject areas. Only Russian used, except for a minimum of linguistic explanation or comment. *Fall.* Boulavko.

32 ADVANCED RUSSIAN GRAMMAR AND COMPOSITION (3). Prerequisite, Russian 22 or equivalent. Systematic study of Russian syntactic patterns, on formal and colloquial levels, and application of these to Russian composition. *Spring.* Staff.

70 RUSSIAN LITERATURE OF THE NINETEENTH CENTURY (Comparative Literature 70) (3). Introduction to the Russian novel of the 19th century with particular consideration of selected writings of Pushkin, Gogol, Turgenev, Dostoevsky and Tolstoy. *Fall.* Bobkoff.

72 RUSSIAN LITERATURE FROM CHEKHOV TO THE REVOLUTION (3). A survey of the literary situation and the authors of the late 19th and 20th century, with emphasis on Chekhov and the Symbolists. Lectures and readings in English; some readings for the majors in Russian. *On demand.* Mihailovich.

74 RUSSIAN LITERATURE OF THE SOVIET PERIOD (Comparative Literature 74) (3). A survey of influential Russian writers and literary problems from the time of the Revolution to the present. Lectures in English with selected readings in Russian for majors in Russian. *Spring.* Mihailovich.

101 THE STRUCTURE OF MODERN RUSSIAN (3). Prerequisite, Russian 4 or permission of instructor. A synchronic analysis of the phonology and grammar of modern standard Russian for Russian majors and linguists, with some contrastive treatment of Russian and English. *Spring.* Gasinski.

159 EARLY RUSSIAN LITERATURE TO ABOUT 1700 (3). Prerequisite, reading knowledge of Russian or permission of instructor. A survey of

early Russian literature from the beginnings to the Petrine period. *Fall, on demand.* Gasinski.

160 RUSSIAN LITERATURE OF THE EIGHTEENTH CENTURY (3). Prerequisite, reading knowledge of Russian or permission of instructor. A survey of the leading writers and works of Russian Classicism and the New Sensibility, including poetry, drama and prose. *Spring, on demand.* Gasinski.

166 RUSSIAN SYMBOLISM (3). Prerequisite, reading knowledge of Russian or permission of instructor. An introduction to the leading writers and works of the Symbolist movement in Russia, with some discussion of its relationship to similar movements in West European literature. *Fall.* Mihailovich.

171 PUSHKIN AND HIS TIME (3). A course of readings and lectures on the poetry, prose fiction, and letters of Alexander Pushkin, with some consideration of contemporary poets of note. *Fall.*

177 DOSTOEVSKY (3). Examination of selected works of Fyodor Dostoevsky and consideration of his significance to Russian and world literature. *Fall.*

179 TOLSTOY (3). Examination of selected works of Tolstoy and consideration of his significance to Russian and world literature. *Spring.*

193 RUSSIAN SHORT STORY (3). Selected Russian short stories from Pushkin to the present are analyzed both historically, as they represent respective authors and periods, and artistically, as the best examples of the genre. *Spring.* Mihailovich.

Serbo-Croatian

101 ELEMENTARY SERBO-CROATIAN (6). Mihailovich, Gasinski.
102

103 READINGS IN CERBO-CROATIAN LITERATURE (6). Introduction to
104 masterpieces of Serbo-Croatian Literature in Original. (Not offered in 1967-1968.) Mihailovich.

Slavic

50 INTRODUCTION TO SLAVIC CIVILIZATION (3). A course designed to introduce both beginning undergraduate majors in Russian and General College students to the Slavic world of past and present, viewed as a constituent culture within Western civilization. *Fall.* Gasinski.

105 INTRODUCTION TO SLAVIC LINGUISTICS (3). Prerequisite, two years of Slavic language(s) or permission of instructor. A course introducing undergraduate majors and graduate students in Slavic and/or Linguistics to the historical and comparative study of the Slavic languages from Proto-Indo-European and Common Slavic to the present. *Fall.* Gasinski.

107 OLD CHURCH SLAVIC (3). Church Slavic readings and grammatical analysis with references to the historical grammar of Russia. Bobkoff, Gasinski.

111 WEST SLAVIC LITERATURE (3). An introduction to the leading writers and works of the literatures of the West Slavic peoples (chiefly Polish and Czechoslovak), with some consideration of their relations to West European literatures. *Fall.* Grasinski.

112 SOUTH SLAVIC LITERATURE (3). An introduction to leading writers and works of the literatures of the South Slavic peoples (chiefly Serbo-Croatian and Bulgarian) with some consideration of their relations to West European literatures. *Spring.* Mihailovich.

DEPARTMENT OF MATHEMATICS

Professors Emeriti: T. F. HICKERSON, J. W. LASLEY, JR., E. L. MACKIE, J. B. LINKER, A. S. WINSOR, R. M. TRIMBLE, M. A. HILL, JR.,[1] A. T. BRAUER, W. M. WHYBURN[2]
Professors: V. A. HOYLE, E. A. CAMERON, B. J. PETTIS, W. ROBERT MANN, J. S. MACNERNEY, W. E. JENNER, *Chairman*
Associate Professors: R. L. DAVIS,[3] C. W. PATTY, A. C. MEWBORN, R. G. HEYNEMAN
Assistant Professors: M. E. WATKINS, J. A. CIMA, W. W. SMITH, MARTIN ENGERT, R. E. O'MALLEY,[3] R. J. TROYER
Instructor: H. B. HOYLE III
Lecturers: G. B. PARRISH, ANN MERZBACHER

For the degree of A.B. with a major in mathematics, a student should take the following courses:

I. (A) Mathematics 31, 32, 33, 34.
   (B) Five to seven additional courses, numbered 121 or above and including:
      (a) (121, 122) or (193, 194)
      (b) At least one of the following: 134, 135, 136, 137.

II. From five to seven courses in the Division of Natural Sciences but not in mathematics.

III. From five to seven courses not in the Division of Natural Sciences.

Promising students are offered the opportunity of working toward a bachelor's degree with honors in mathematics. The course program shall consist of six or more courses approved by the departmental honors adviser. At least one of the undergraduate seminars, Mathematics 98 and Mathematics 99, which demand intensive student participation, is required. At some time during the semester in which the student expects to graduate, a one hour oral examination conducted by the departmental honors committee is required of each honors candidate. Interested students should consult the departmental honors adviser before completing the third semester of calculus and in no case later than the beginning of their senior years.

Students intending to teach mathematics in the public schools and students enrolled in the School of Education who intend to major in mathematics should consult the section of the catalogue on the School of Education. Courses especially designed for teachers and prospective teachers of high school mathematics are: Mathematics 116, 117, 118, 119, and 120. These courses may not be counted toward a major in mathematics by other students.

The following curriculum leading to the Bachelor of Science degree in Mathematics is available:

For freshman and sophomore years see "General College," Part III.

1. Part-time Professor, 1966-1967.
2. Retired, January 31, 1967.
3. Absent on leave, 1966-1967.

JUNIOR AND SENIOR YEARS

Seven to nine courses in mathematics numbered 121 or above, including:

(a) (121, 122) or (193, 194)
(b) (136, 137)

Four or more courses in the Division of Natural Sciences, including Physics 24, 25 (or 26, 27) if not taken in the first two years.

Four courses outside the Division of Natural Sciences.

Free electives to bring total semester hours credit for the four years to at least 129 (including physical education) and the total number of full courses to at least 38.

All freshmen who have had four years of high school mathematics, including some trigonometry, and who wish to commence mathematics beyond Mathematics 15, will take a qualifying test. The results of this test, together with other pertinent information, are used to determine whether the student begins with Mathematics 15 or 31.

The names of faculty members in the following listing indicates only the most recent instructor in the course.

Courses for Undergraduates

1 2 INTRODUCTION TO MATHEMATICS (3 each). An introduction to some basic notions of mathematics, intended for those not planning to do further mathematical work. *Fall and spring.* Staff.

15 INTRODUCTION TO MATHEMATICAL ANALYSIS (3). Number systems, inequalities, equations and graphs, trigonometric functions, inverse trigonometric functions, linear functions, conic sections, mathematical induction, logarithmic and exponential functions, complex numbers. *Fall and spring.* Staff.

17 18 MATHEMATICS FOR ELEMENTARY SCHOOL TEACHERS (3 each). A study of the algebraic structure of the number system, some elementary number theory, basic ideas of algebra, and intuitive foundations of geometry. The course is designed to prepare teachers to teach mathematics in the elementary school. *Fall and spring.* Pettis.

21 INTRODUCTION TO DIGITAL COMPUTER USAGE (Information Science 10) (2). Preparation for junior and senior year use of digital computers in the social and natural sciences. *Two hours per week, spring.* Hanson.

31 32 33 CALCULUS WITH ANALYTIC GEOMETRY (3 each). Prerequisite, Mathematics 15. This three-course sequence of three-semester hour courses gives an integrated treatment of analytic geometry, differential and integral calculus. (Beginning the summer 1967, Mathematics 33 will contain some linear algebra.) *Fall and spring.* Staff.

36 TOPICS IN CALCULUS (3). Prerequisite, Mathematics 33. Calculus of vector functions. (Beginning in the fall 1967, this course will be renumbered Mathematics 34.) *Spring.* Mewborn.

98 UNDERGRADUATE SEMINAR IN MATHEMATICS (2). Prerequisite, permission of the instructor. A seminar on a chosen topic in mathematics in which the students participate more actively than in usual courses. *Fall.* Staff.

99 UNDERGRADUATE SEMINAR IN MATHEMATICS (2) Prerequisite, permission of the instructor or the honors adviser. A seminar on a chosen topic in mathematics in which the students do most of the work and report to their fellow students. *Spring.* Staff.

Courses for Graduates and Advanced Undergraduates

100 FUNDAMENTALS OF INFORMATION PROCESSING (Information Science 100) (Formerly 169) (3). Prerequisite, Mathematics 21 or equivalent (corequisite). Mathematical foundations of information processing, representation, encoding, logic of switching, organization of computer systems, representation of information structures, design of algorithms, searching, sorting, programming systems and languages. *Fall and spring.* Cramer.

105 HISTORY OF MATHEMATICS (3). *Summer session.* Staff.

108 MATHEMATICS FOR SOCIAL SCIENTISTS I (3). Prerequisite, permission of instructor. Introduction to various topics in pure mathematics of frequent application in behavioral models: sets and relations, graph theory and related topics, theory of probability for finite sample spaces. *Fall.* Davis.

109 MATHEMATICS FOR SOCIAL SCIENTISTS II (3). Prerequisites, Mathematics 32 and 108. More advanced topics chosen from linear algebra, applications of non-negative operators, difference equations, optimization problems, linear programming, and game theory. *Spring.* Davis.

116 FUNDAMENTAL CONCEPTS OF ALGEBRA (3). Prerequisites, Mathematics 32 and permission of the instructor. Such basic concepts as sets, number systems, and algebraic systems will be treated. Topics in groups, rings, and fields will be selected from modern algebra as they have particular relevance to high school algebra. *Fall.* Mewborn.

117 FUNDAMENTAL CONCEPTS OF EUCLIDEAN GEOMETRY (3). Prerequisite, Mathematics 32 or permission of the instructor. Deductive reasoning in Euclidean geometry, using postulates of incidence, order, congruence, and distance. Properties of triangles and other figures in two and three dimensions. Length, area, and volume. *Fall and summer session.* Troyer.

118 SOME CONCEPTS OF ANALYSIS (3). Prerequisites, Mathematics 33 and permission of the instructor. A study of sequences, limits, functions, continuity, differentiability, infinite series, computation of tables, integrability, real numbers, complex numbers, algebraic and transcendental numbers. *Spring.* Mann.

119 TOPICS FROM GEOMETRY (3). Prerequisite, Mathematics 32 or permission of the instructor. Non-Euclidean geometry. Introduction to projective geometry. Selected additional topics. *Spring.* Staff.

120 PROBABILITY (3). Prerequisite, Mathematics 33 or equivalent. Foundations of probability; random variables and distribution functions; the binomial, Poisson, and normal distributions; expectation, moments, moment-generating functions; compound events and joint distributions; limit theorems; applications. *Spring.* Kuebler.

121 ADVANCED CALCULUS I (3). (Formerly 171.) Prerequisite, Mathematics 33 or equivalent. Limits, continuity, differentials, power series, partial and implicit differentiation, definite and line integrals. *Fall and spring.* Staff.

122 ADVANCED CALCULUS II (3). (Formerly 172.) Prerequisite, Mathematics 121. Gamma and beta functions; Legendre polynomials; Bessel functions; Fourier series; Laplace's equation; harmonic functions; potential. *Spring.* Staff.

123 FUNCTIONS OF A COMPLEX VARIABLE (3). (Formerly 176). Prerequisite, Mathematics 121 or 193. The Cauchy theory, power series, analytic continuation, residues and contour integrals, conformal mapping. *Spring.* Heyneman.

124 ELEMENTARY DIFFERENTIAL EQUATIONS (3). (Formerly 141). Prerequisite, Mathematics 33. Introduction to ordinary differential equations, power series solutions, Laplace transforms, numerical methods. *Fall and spring.* V. A. Hoyle.

130 PROJECTIVE GEOMETRY (3). (Formerly 150). Prerequisite, Mathematics 32. Introduction to analytic and synthetic projective geometry, projective transformations, theory of conics, non-Euclidean geometries and their models. *Fall.* Jenner.

134 ELEMENTS OF MODERN ALGEBRA (3). Prerequisite, Mathematics 32. Introduction to some of the basic ideas of abstract algebra. Credit for both 134 and 136 will not be granted. *Fall and spring.* Staff.

135 LINEAR ALGEBRA (3). Prerequisite, Mathematics 32 or equivalent. Introduction to the theory of finite dimensional vector spaces, linear transformations and matrices. *Fall and spring.* Heyneman.

136 INTRODUCTION TO MODERN ALGEBRA I (3). Prerequisite, Mathematics 33. Introduction to the theory of groups, rings, integral domains and fields. Credit for both 134 and 136 will not be granted. *Fall and spring.* Mewborn.

137 INTRODUCTION TO MODERN ALGEBRA II (3). Prerequisite, Mathematics 136. Elementary theory of vector spaces, linear transformations and matrices. *Fall and spring.* Mewborn.

142 ORDINARY DIFFERENTIAL EQUATIONS (3). Prerequisite, Mathematics 124. Existence and uniqueness theorems, stability theory, Sturm-Liouville systems, applications. *Spring.* Staff.

143 PARTIAL DIFFERENTIAL EQUATIONS (3). Prerequisite, Mathematics 122 or 194; corequisite, Mathematics 123. Elliptic, parabolic and hyperbolic equations, existence and uniqueness theorems, boundary value problems. *Spring.* Mann.

146 INTRODUCTION TO PROBABILITY (Formerly 126) (Statistics 126) (3). Prerequisite, one semester advanced calculus (Mathematics 121 or 193). An introduction to the mathematical theory of probability, covering random variables, moments, binomial, Poisson, normal, and related distributions, generating functions, sums and sequences of random variables, combinatorial and statistical applications. *Spring.* Staff.

156 INTRODUCTION TO ALGEBRAIC GEOMETRY (3). Prerequisite, Mathematics 32; corequisite, Mathematics 135 or 136. Algebraic curves and surfaces in affine and projective space, rational curves, Segre and Veronese varieties. *Fall.* Jenner.

163 ELEMENTARY GENERAL TOPOLOGY (3). Prerequisite, Mathematics 121, or else corequisite Mathematics 193. Topological spaces, continuous functions, separation axioms, connected spaces, compact spaces and finite products. *Fall.* Patty.

164 ELEMENTARY ALGEBRAIC TOPOLOGY (3). Prerequisites, Mathematics 136 and some knowledge of elementary general topology. Introductory homology and cohomology; homotopy; cells, cycles, complexes, manifolds in n-dimensional Euclidean space; covering spaces. *Spring.* Patty.

165 INTRODUCTORY FUNCTIONAL ANALYSIS (3 each). Prerequisites,
166 Mathematics 136 and 163. Rudimentary theory of metric and topological spaces; spaces of functions, and compactness theorems; introduction to Banach spaces, linear operations, and Banach algebras; certain classical topological groups, their character groups and group algebras; duality theory. *Fall and spring.* Pettis.

170 INTRODUCTION TO NUMERICAL ANALYSIS (Information Science 150) (3). Prerequisites, Mathematics 32, Mathematics 100. Truncation, rounding error, error propagation. Interpolation quadrature, integration of differential equations. Relation of functional analysis to numerical analysis, eigenvalue theory to matrix and vector norms. *Spring.* Cramer.

173 TOPICS IN APPLIED MATHEMATICS I (3). Prerequisite, Mathematics 121-122 or equivalent. Boundary value problems associated with partial differential equations. *Fall.* Staff.

174 TOPICS IN APPLIED MATHEMATICS II (3). Prerequisite, Mathematics 121-122 or equivalent. Finite difference approximations to boundary value problems—convergence and stability criteria; theory of characteristics, iterative procedures. *Spring.* Staff.

175 TOPICS IN ANALYSIS (3). Prerequisite, Mathematics 33 or equivalent. Introduction to metric, to normed, to Hilbert spaces, and to spaces of continuous functions. Calculus of vector-valued functions. *Summer session.* Staff.

178 SPECIAL FUNCTIONS (3). Prerequisite, Mathematics 123. A study of the more important properties of Bessel, Hankel, and Neuman functions; the gamma and beta functions; the hypergeometric function; surface and spherical harmonics; Legendre, Laguerre, and Hermite polynomials. *Spring.* Mann, Jenner.

181 ELEMENTARY THEORY OF NUMBERS I (3). An elementary course in theory of rational integers, divisibility. Prime numbers, Diophantine equations, congruences. *Fall.* Staff.

182 ELEMENTARY THEORY OF NUMBERS II (3). Prerequisite, Mathematics 181. Continuation of Mathematics 181. Quadratic residues, arithmetic theory of continued fractions. Recent results in elementary number theory. *Spring.* Staff.

186 ALGEBRAIC STRUCTURES I (3). Prerequisites, Mathematics 136 and 137, or equivalent. Properties of groups, groups with operators, rings, modules, elements of multilinear algebra. *Fall.* Smith.

187 ALGEBRAIC STRUCTURES II (3). Prerequisite, Mathematics 186. Theory of fields, Galois theory, theory of ideals, valuations; other topics. *Spring.* Smith.

191 VECTOR AND TENSOR ANALYSIS (3). Prerequisites, Mathematics 124 and either 121 or 193 or equivalent. Vector and tensor algebra applied to geometry and physics. Students taking this course should be familiar with ordinary differential equations and should have some knowledge of analytic geometry of three dimensions. *Spring.* Hoyle.

193 MATHEMATICAL ANALYSIS I (3). Prerequisite, Mathematics 33 or equivalent. Introductory set theory and topology in finite dimensional Euclidean spaces; continuity and differentiability of functions in these spaces; related mean-value and extremum problems. *Fall.* Engert.

194 MATHEMATICAL ANALYSIS II (3). Prerequisite, Mathematics 193. Continuation of Mathematics 193, including connectedness and separation theorems; Riemann-Stieltjes integration; content and outer measure; Green's Theorem in Jordan regions. *Spring.* Engert.

196 THEORY OF FUNCTIONS OF REAL VARIABLES I (3). Prerequisite, Mathematics 122 or 194. *Fall.* Mann.

199 PROSEMINAR (1). Cardinal and ordinal numbers, axiom of choice and its equivalents, other topics. *Spring.* Engert.

Courses for Graduates

206 ANALYTIC FUNCTIONS I (3). Prerequisite, Mathematics 194. Holomorphic functions, the Cauchy theory, harmonic functions, power series, analytic continuation. *Fall.* Cima.

207 ANALYTIC FUNCTIONS II (3). Prerequisite, Mathematics 206. Conformal mapping, normal families, entire and meromorphic functions, elliptic functions. *Spring.* Cima.

210 HILBERT SPACES (3). Prerequisite, Mathematics 207. Axiomatic foundations, continuous linear transformations, relationship with analytic functions and infinite matrices. *Fall, each year.* MacNerney.

211 CONTINUED FRACTIONS (3). Prerequisite, Mathematics 210. Analytic theory, convergence problems, positive definiteness, relationship with infinite matrices and moment problems. *Spring, each year.* MacNerney.

213 INTRODUCTION TO FUNCTIONAL ANALYSIS I (3). Prerequisite, permission of instructor or graduate adviser. Topological linear spaces and algebras, certain classes of function spaces, introduction to harmonic analysis on locally compact groups. *Fall.* Pettis.

214 INTRODUCTION TO FUNCTIONAL ANALYSIS II (3). Continuation of Mathematics 213. *Spring.* Pettis.

216 217 ADVANCED TOPICS IN ANALYSIS (3 each). Prerequisite, consent of instructor. *Fall and spring.* Staff.

218 219 TOPICS IN ANALYTIC FUNCTION THEORY (3 each). Prerequisite, a one-year course in complex variables. *Fall and spring.* MacNerney.

226 FOUNDATIONS OF GEOMETRY (3). A study of logic in geometry; postulates, systems of geometry. Contributions of Pasch, Peano, Hilbert, Veblen, and the postulation school. *Summer session.* Staff.

232 THEORY OF ALGEBRAIC NUMBERS (3). Prerequisite, Mathematics 186. Ideal theory in number fields and function fields, valuations, class number and unit theorems. *Spring.* Staff.

246 247 ADVANCED TOPICS IN ALGEBRA (3 each). Prerequisite, Mathematics 187 or consent of instructor. *Fall and spring.* Cameron, Heyneman.

257 TOPICS IN ALGEBRAIC GEOMETRY (3). Prerequisite, consent of the instructor. General theory of algebraic varieties, algebraic functions, abelian varieties, schemata and the Grothendieck theory. *Spring.* Jenner.

261 DIFFERENTIAL GEOMETRY (3). Prerequisites, Advanced Calculus, and Mathematics 135 or 137. A study of the metric differential properties of curves, surfaces, and curves on surfaces by means of differential equations. *Fall.* Staff.

267 THEORY OF FUNCTIONS OF REAL VARIABLES II (3). Prerequisite, Mathematics 196. *Spring.* Mann.

268 ADVANCED DIFFERENTIAL EQUATIONS (3). Prerequisite, Mathematics 267 or equivalent. Fundamental existence theorems for ordinary equations, boundary value problems, applications. *Fall.* Staff.

280 CALCULUS OF VARIATIONS (3). Prerequisite, advanced calculus. The determination of necessary and sufficient conditions for functions which minimize certain definite integrals; direct methods. *Spring.* Mann.

281 GENERAL TOPOLOGY I (3). Prerequisite, Mathematics 163. A continuation of Mathematics 163. *Fall.* Troyer.

282 GENERAL TOPOLOGY II (3). Prerequisite, Mathematics 281. A continuation of Mathematics 281. *Spring.* Troyer.

283 GENERAL TOPOLOGY III (3). Prerequisite, Mathematics 282. A continuation of Mathematics 282. *Fall.* Patty.

284 GENERAL TOPOLOGY IV (3). Prerequisite, Mathematics 283. A continuation of Mathematics 283. *Spring.* Patty.

287 ALGEBRAIC TOPOLOGY (3 each). Prerequisites, Mathematics 164, 186,
288 282. Homology, cohomology, homotopy, covering spaces, fiber spaces. *Fall and spring.* Patty.

289 INTRODUCTION TO GRAPH THEORY (3). Prerequisites, Mathematics 136 and 137 or permission of the instructor. *Fall.* Watkins.

290 TOPICS IN GRAPH THEORY (3). Prerequisites, Mathematics 164 and 289. *Spring.* Watkins.

296 THEORY OF RINGS (3). Prerequisite, Mathematics 186 or permission of the instructor. *Fall.* Mewborn.

298 THE THEORY OF ALGEBRAS (3). Prerequisite, Mathematics 186 or equivalent. The study of finite dimensional algebras, including: representation theory, the regular representations, structure theory, the Wedderburn Theorems, duality theory, and the theory of modules. *Spring.* Mewborn.

393 MASTER'S THESIS.

394 DOCTORAL DISSERTATION.

400 GENERAL REGISTRATION (0).

SEMINARS (3). 351, Whyburn; 352, MacNerney; 356, Patty; 357, Jenner; 358, O'Malley; 361, Pettis; 366, Davis; 367, Cima; 368, Heyneman; 369, Troyer; 371, Mewborn; 372, Hoyle; 377, Hill; 382, Cameron; 386, Watkins; 387, Mann; 388, Smith; 389, Engert.

DEPARTMENT OF MUSIC

Professors: EARL SLOCUM, J. P. SCHINHAN,[1] WILLIAM S. NEWMAN,[2] WILTON MASON, *Chairman*, EDGAR ALDEN, JOEL CARTER
Assistant Professors: JAMES PRUETT, RUDOLPH KREMER, ROGER HANNAY
Visiting Assistant Professor: LILIAN PIBERNIK PRUETT
Lecturer: PAUL GENE STRASSLER
Instructors: WAYNE ZARR, CHARLES GRIFFITH, JOHN YESULAITIS, CLIFTON MATTHEWS, MICHAEL ZENGE
Part-time Instructors: BARBARA ROWAN, EMILY KELLAM
Graduate Assistants: MARY FRANCES BOYCE, SARAH BULLOCK, FRANCES CUMNOCK, AMY FOWLER, EARL HENRY, MARTHA HILL, JAMES HOLMES, JAMES IGOE, PATRICIA JACKSON, PHILIP JACKSON, DOUGLAS NELSON, ROBERT PORCO, HENRY SCHMIDT, ROBERT STEELMAN, WAYNE TURNAGE, WILLIAM WOLFE

The Department of Music offers all three of the standard undergraduate curricula in music, including the A.B. for students seeking to emphasize music's place in the humanities, the B.M.Ed. for those training to teach music (especially in the public schools), and the B.M. for those desiring to specialize in performance or in theory and composition within the Division of Fine Arts. The basic core of music theory, history, and performance courses is essential and therefore common to all three curricula. Moreover, each curriculum includes a fundamental program in the humanities, natural sciences, and social sciences. It is the aim of the Department to give the A.B. students and the B.M.Ed. students as rich an experience in performance, and the B.M. students as rich an experience in the liberal arts as their programs will allow. All prospective music majors normally defer enough General College subjects to permit them to begin their music theory in their freshman year (Music 1-2, 14-15) and continue it in their sophomore year (Music 44-45). They also begin their applied music and join one of the larger ensemble groups as freshmen. All have Music 47, 48, 61, and 64 in the third year.

The following differences among the three curricula may be noted: A.B. candidates will take two theory electives (62, 68, 165, 166), and one music literature elective (102, 103, 104, or a course in the 130-150 series). B.M.Ed. candidates will take Music 62 and 68, one music elective, two music education courses, four basic education courses (Education 41, 71, 72B, 99), and student teaching (Education 78 or 79), which occupies the last half of the final semester. B.M. candidates will take two music literature electives (102, 103, 104, or a course in the 130-150 series) and one music theory elective (62, 68, 162, 163, 165, 166). Music 101 may be selected as a senior year elective, especially by those students planning to enter graduate school for further study.

1. Professor, Emeritus.
2. Alumni Distinguished Professor of Music.

The Undergraduate Curricula Compared

The three degree programs in music may be summarized as follows:

	A.B.	B.M. Ed.	B.M.
Applied Music	16 hours, minimum	21 hours, minimum	40 hours, minimum
Courses in Music Theory and Music History	12 (37 hours)	11 (34 hours)	11 (36 hours)
Non-music Requirements (not including Physical Education)	14 (45 hours)	12 (40 hours)	12 (40 hours)
Electives	10 (30 hours)	3 (9 hours)	5 (15 hours)
Professional Education Courses	—	8 (24 hours)	—

Honors in Music: Students interested in becoming candidates for a degree with honors in music should read the regulations governing the Honors Program in the College of Arts and Sciences and should consult the Chairman of the Department early in their junior year. Note, also, the Freshman and Sophomore Honors Program, as explained elsewhere in this Catalogue.

Department of Music Catalogue: The catalogue, available upon request to the Chairman of the Department of Music, includes sample detailed programs for the A.B., B.M.Ed., and B.M. courses of study and requirements for the graduate degree programs, as well as other more specific information on course requirements, music facilities, performance opportunties, student aid, and the like.

Courses for Undergraduates

1 2 INTRODUCTION TO MUSIC LITERATURE (1 each). An orientation course in the masterworks of music, offered only in conjunction with Music 14 and 15. *Fall and spring.* Kremer, Hannay.

4 FUNDAMENTALS OF MUSIC FOR ELEMENTARY TEACHERS (3). Not offered to music majors. A basic course for prospective classroom teachers, including rudimentary ear-training, melody writing, harmonization, and keyboard facility; vocal and instrumental materials; rhythm band and simple melody instruments. *Fall and spring.* Carter, Zarr.

14 15 FIRST-YEAR MUSIC THEORY (4 each). The fundamentals of rhythm and pitch notation, scale structure, intervals, terminology, triads, seventh chords, inversions, nonharmonic tones, modulations, and composition; in writing, at the keyboard, and by dictation. *Fall and spring.* Kremer, Rowan, Yesulaitis.

41 MUSIC APPRECIATION: GENERAL SURVEY (3). Not offered to music majors. No prerequisite. A broad introduction to musical understanding emphasizing elements, styles, and forms in representative masterworks. Integrated with the other arts and the humanities. Lectures, readings, recordings, and concerts. *Fall and spring.* Griffith, Hannay, Matthews, Newman, Zenge.

42 MUSIC APPRECIATION: OPERA AND ORATORIO (3). Not offered to music majors. No prerequisite. A survey through recordings, broadcasts, and live concerts of masterworks (especially by Handel, Haydn, Mozart, Mendelssohn, Wagner, Verdi, and composers for the contemporary lyric theater). *Fall and spring.* Carter, Zarr.

43 MUSIC APPRECIATION: SYMPHONY AND CHAMBER MUSIC (3). Not offered to music majors. No prerequisite. An introduction to some great symphonies, concertos, string quartets, and other instrumental ensemble literature from Haydn to the present. Illustrated through concerts, radio, television, and recordings. *Fall and spring.* Alden, Griffith.

44 SECOND-YEAR MUSIC THEORY (4 each). Prerequisite, Music 14-15. A
45 continuation of first-year theory introducing chromatic harmony, advanced modulation, and newer harmonic resources. *Fall and spring.* Hannay.

47 THE HISTORY OF MUSIC (3 each). Survey from the origins to 1600, and
48 from 1600 to the present. Includes readings, individual reports, films, recordings, and demonstrations in the various style periods. *Fall and spring.* Mason, L. Pruett.

61 FORM AND ANALYSIS (2). Prerequisite or corequisite, Music 44-45. Examination of representative Classic and Romantic works. *Fall.* Hannay, Slocum.

62 INSTRUMENTATION (2). Prerequisite or corequisite, Music 44-45. The study of the capabilities and techniques of the standard orchestral and band instruments, with practical applications. *Spring.* Slocum, Yesulaitis.

64 TONAL COUNTERPOINT (2). Prerequisite, Music 14-15. Study and practice of eighteenth-century contrapuntal technique, with particular reference to the style of Bach. Writing of two- and three-part inventions. *Spring.* Slocum.

68 CONDUCTING (2). Practical experience in baton technique, score reading, and conducting of vocal and instrumental ensembles. *Fall.* Slocum, Yesulaitis.

NOTE: The following courses come under the School of Education.

EDUCATION 75 METHODS AND MATERIALS IN TEACHING INSTRUMENTAL MUSIC (3). *Spring.* Yesulaitis.

EDUCATION 76 METHODS AND MATERIALS IN TEACHING CHORAL AND GENERAL MUSIC (3). Education 75 and 76 meet six hours per week during the first half of the semester. As a part of the professional "block" program, they are open only to seniors in the School of Education, that is, to B.M.Ed. candidates. *Spring.* Carter.

EDUCATION 78 STUDENT TEACHING IN INSTRUMENTAL MUSIC (6). *Spring.* Yesulaitis.

EDUCATION 79 STUDENT TEACHING IN CHORAL AND GENERAL MUSIC (6). Education 78 and 79 provide essential practical experience in both the musical and the administrative problems of the school music teacher. Either course occupies the full time of the candidate for the teaching certificate throughout the second half of the second senior semester. It is supervised by both the School of Education and the Department of Music in selected public schools. *Spring.* Carter.

Courses for Graduates and Advanced Undergraduates

101 INTRODUCTION TO MUSICOLOGY AND MUSIC BIBLIOGRAPHY (3). The scope and methods of musicology. Readings, bibliography, library and seminar assignments, including problems in style, theory, ethnomusicology, and history. *Fall.* J. Pruett.

102 MUSIC AESTHETICS (3). Studies in the meaning, perception, philosophy, and criticism of music. (1968 and alternate years.) *Spring.* Instructor to be announced.

103 PRIMITIVE AND ORIENTAL MUSIC (3). A study of the folk music of primitive peoples throughout the world and of the traditional and folk music in Oriental countries. Lectures, readings, scores, and recordings. (1967 and alternate years.) *Spring.* Mason.

104 FOLK MUSIC OF EUROPE AND THE NEW WORLD (3). A study of folk music in European countries, emphasizing similarities in the British Isles and southern United States. Lectures, readings, scores, and recordings. (1966 and alternate years.) *Spring.* Mason.

NOTE: The following two courses come under the School of Education.

EDUCATION 120 MUSIC EDUCATION IN THE PUBLIC SCHOOL (3). A study of goals; curricula; productions, festivals, and special activities; room, equipment, and library; rehearsal techniques; testing and guidance; and new materials. *Fall and summer.* (1969 and alternate summers.) Carter.

EDUCATION 121 INVESTIGATIONS AND TRENDS IN MUSIC EDUCATION (3). A survey of recent studies on music psychology, private instruction in the public schools, "popular" and folk music in the classroom, terminal music education, and college preparation. *Summer.* (1968 and alternate years.) Carter.

NOTE: Among the following courses numbered from 130 to 158, the 130 series comprises historical surveys that emphasize main composers, styles, forms, trends, centers, theories, and attitudes; the 140 series comprises forms or style species; and the 150 series comprises composer studies that emphasize contemporary environment, works, styles, forms, influences, and comparisons. All of these courses include lectures, reports, readings, analyses and musical illustrations and are offered every two or three years as the demand warrants.

131 THE BAROQUE ERA, 1580-1750 (3). From the Gabrielis and Monteverdi to Bach and Handel. Alden, Newman.

132 THE CLASSIC ERA, 1735-1830 (3). From Bach's celebrated sons to Beethoven and Schubert. Mason, Newman.

133 THE ROMANTIC ERA, 1790-1915 (3). From Mendelssohn, Schumann, Liszt, and Chopin to Strauss, Mahler, Puccini, MacDowell, and Rachmaninoff. Alden, Carter, Mason, Newman.

134 THE MODERN ERA, FROM 1890 (3). From Impressionism to the present. Hannay, Newman.

135 AMERICAN MUSIC (3). Its growth and development from the early colonies to the present. Alden.

136 PERFORMANCE PRACTICES (3). Problems of rhythm, ornamentation, articulation, and expression in both instrumental and vocal music, with emphasis on the period from 1550 to 1825 and practical applications in an informal collegium musicum. Newman.

141 THE MADRIGAL (3). Its international flowering, especially at the peak of music's Renaissance era. Mason.

142 OPERA (3). A survey of the types, national and international trends, conflicts, and chief masterworks from opera's beginning around 1600 to the present. Carter, Mason.

143 MUSIC FOR BAND (3). A survey from the origins of the idiom to its important, expanded cultivation over the past century in the United States and by numerous European masters. Yesulaitis.

144 ART SONG (3). A study of the development of this genre, especially during its great flowering in the *Lieder, mélodies,* and other national types of the nineteenth century. Carter, Mason.

145 THE SONATA (3). A survey of the meanings, uses, spread, scoring, and structural changes of this form type from its origins to the present. Newman.

146 THE STRING QUARTET (3). From its origins in early chamber music to its culmination in the Classic, Romantic, and Modern eras, including problems of texture, form, and performance. Alden.

147 THE SYMPHONY (3). The growth of the symphony as an independent orchestral genre, especially in the masterworks from Haydn, Mozart, and Beethoven to Prokofiev, Piston, and other Moderns. Alden.

148 KEYBOARD MUSIC (3). A historical survey of music for organ, clavichord, harpsichord, and piano. Kremer, Newman.

151 J. S. BACH (3). With special attention alternately to the vocal and the instrumental works. Alden, Kremer, Newman.

152 MOZART (3). Mason, Newman.

153 BEETHOVEN (3). Alden, Kremer, Newman.

154 HANDEL (3). Carter, Mason.

155 BRAHMS (3). Alden, Newman.

156 WAGNER AND VERDI (3). Carter, Mason, Newman.

157 DEBUSSY AND RAVEL (3). Mason.

158 STRAVINSKY AND SCHOENBERG (3). Hannay.

159 STUDIES IN MUSIC HISTORY (3). Other specific surveys in keeping with the era, form, style, and composer surveys in the 130, 140, and 150 series. Staff.

162 ORCHESTRATION (2). Prerequisites, Music 45 and Music 62. Practical exercises in scoring and arranging for various combinations from single instrumental choirs to full concert orchestra, with trial group performances. *Fall.* Slocum, Yesulaitis.

163 BAND ARRANGING (2). Prerequisites, Music 45 and Music 62. Practical exercises in scoring and arranging for various combinations from single instrumental choirs to full concert band, with trial group performances. *Fall.* Slocum, Yesulaitis.

165 MODAL COUNTERPOINT IN SIXTEENTH-CENTURY STYLE (3). Prerequisite, Music 15. Includes exercises in the five species and in the composition of simple vocal motets. *Fall.* Kremer.

166 COMPOSITION IN THE SMALL FORMS (2). Prerequisites, Music 45 and Music 64. Original compositions in binary, ternary, rondo, and freer forms. *Fall.* Hannay.

168 ADVANCED CONDUCTING (3). Prerequisites, Music 45 and Music 68. Yesulaitis.

Courses for Graduates

201 SPECIAL STUDIES. The Department is ready to assist and advise competent graduate students who may propose plans for either research or creative work that meets with its approval. *Hours and credit to be arranged.* Staff.

214 ADVANCED HARMONIC TECHNIQUES (3). Prerequisite, Music 45. Study of twentieth-century harmonic techniques and styles. *Fall.* Alden, Hannay.

261 ANALYTICAL TECHNIQUES (3). Methods in analysis of music from the Middle Ages to the present. *Spring.* Hannay.

262 ADVANCED ORCHESTRATION (3). Prerequisites, Music 162, 214, and 264. *Spring.* Slocum, Hannay.

264 CANON AND FUGUE (3). Prerequisite, Music 64. Practical exercises, with special emphasis on the techniques of Bach. *Fall.* Slocum, Hannay.

265 ADVANCED COMPOSITION (3 each). Designed for the development of
266 creative originality in musical composition. *Fall and spring.* Hannay.

331 NOTATION I (3). Tablatures and white mensural notation in Renaissance ensemble music. Seminar, with readings, reports, and musical illustrations. (1967 and alternate years.) *Spring.* J. Pruett.

332 NOTATION II (3). Black notation in Medieval music, including square, pre-Franconian, Franconian, French, Italian, and related types. (1966 and alternate years.) *Spring.* J. Pruett.

333 THE MIDDLE AGES I (3). Western European monody from early Christian sacred chant to thirteenth-century secular song. Seminar, with readings, reports and musical illustrations. (1966 and alternate years.) *Fall.* L. Pruett.

334 THE MIDDLE AGES II (3). The development of Western polyphony, from early organum to the techniques, styles, and forms of the fourteenth century. Seminar, with readings, reports, and musical illustrations. (1967 and alternate years.) *Spring.* L. Pruett.

335 THE RENAISSANCE ERA I (3). Vocal music in France, the Low Countries, and Italy. Seminar, with readings, reports, and musical illustrations. (1967 and alternate years.) *Fall.* Instructor to be announced.

336 THE RENAISSANCE ERA II (3). Instrumental music; and vocal music in the Hispanic Peninsula, Germany, Eastern Europe, and England. Seminar, with readings, reports, and musical illustrations. (1966 and alternate years.) *Spring.* Instructor to be announced.

337 SEMINAR IN MUSICOLOGY (3). Specific problems in keeping with Music 331-336. *As the demand warrants.* Staff.

393 MASTER'S THESIS (3). *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION (3). *Fall and spring.* Staff.

400 GENERAL REGISTRATION (0).

Courses in Applied Music for Undergraduates and Graduates

Piano: Newman, Matthews, Zenge, Rowan, Cummock, Igoe, P. Jackson, Steelman, Wolfe

Organ: Kremer, Fowler, Johnson

Voice: Carter, Mason, Zarr, Porco, Hill, Turnage

Violin or other stringed instruments: Alden, Griffith, Boyce, Holmes

Flute, clarinet, trumpet, harp, percussion, or other band and orchestral instruments: Slocum, Yesulaitis, Schmidt, Henry, McClelland, Kellam

All study of applied music in the Department of Music, both individual and group, has a fourfold purpose: (1) full training in the skills and techniques of the particular instrument or voice, (2) broad exploration into its literature, (3) intelligent application of principles and styles introduced in the theory and history courses, and (4) varied experience in public performance. However, the system of applied music credits differs with each curriculum, in keeping with different requirements, emphases, and standards. Thus, each hour per week of individual instruction in the major instrument or voice earns one semester hour credit in the A.B. program at freshman or higher level, two hours credit in the B.M.Ed. program right from the beginning level, four hours credit in the B.M. program at freshman or higher level, and three hours credit in the M.M. program in performance at graduate level. On the other hand, in the band, orchestral, and choral ensemble courses all undergraduate credit students earn their credits on the same basis of one hour credit per semester and all M.M. students earn one-and-one-half hours credit per semester. Further details and differences in the credit system for applied music are explained under the separate curricula, as follows:

Applied music in the A.B. program: Candidates for the A.B. degree will take at least the one hour per week of individual instruction on their major instrument or voice, and at least one appropriate large-ensemble course per semester (Band, Orchestra, Chorus, or Glee Club) throughout their undergraduate program. But they do not receive credit for the individual instruction until or unless they meet the entrance standards and requirements for at least the "A.B. freshman level," approximately as defined in the latest regulations of the National Association of Schools of Music and as demonstrated before the chairman of instruction for their particular instrument or voice. Detailed individual courses of study will be sent upon request. Depending on their abilities, needs, and interests, A.B. candidates may also choose to supplement their major with a minor on another instrument or in voice, on the same credit basis and according to the same standards. But they must complete at least the sophomore level in their major instrument prior to graduation.

Applied music in the B.M.Ed. program: Candidates for the B.M.Ed. degree will take individual or class instruction plus at least one appropriate large-ensemble course (Band, Orchestra, Ensemble, Chorus, or Glee Club) throughout all but the final semester of their undergraduate program, the final semester being reserved for the education "block." The individual and class instruction will be devoted variously to at least two different instruments and voice. At least four semesters of one-hour lessons weekly will be individual instruction. The total instruction will add up to an average of at least one individual hour or

four class hours of lessons per week during the seven semesters (with two one-hour class lessons earning the same credit as one half-hour individual lesson). In the B.M.Ed. program all such instruction is credited on the same basis, even at the beginning level, since broad instrumental and vocal experience is one main goal of this program. But, before graduation, each B.M.Ed. candidate must successfully complete at least the "freshman level" on one instrument or voice, as evaluated in the above A.B. program.

Applied music in the B.M. program: Candidates for the B.M. degree will take at least the one hour per week of individual instruction on their major instrument or voice, and at least one appropriate large-ensemble course per semester (Band, Orchestra, Chorus, or Glee Club), throughout their undergraduate program. But they are not admitted to the B.M. program and do not receive credit for the individual instruction until or unless they demonstrate at a preliminary faculty hearing (scheduled by appointment with the chairman of instruction for their particular instrument or voice), that they can perform acceptably at least at the "B.M. freshman level" (roughly equivalent to the "A.B. sophomore level" or the sophomore level approximately as defined in the latest regulations of the National Association of Schools of Music). Detailed individual courses of study will be sent upon request. Depending on their abilities, needs, and interests, B.M. candidates may also choose to supplement their major with a minor on another instrument or voice. This minor earns credit at half the rate of the major instrument or voice (in other words, at the same rate as B.M.Ed. applied music courses, under which it is listed), the level being determined as for applied music study in the A.B. rather than the B.M. program. B.M. candidates must complete the senior level in their major instrument or voice before graduation and are required to give both a junior and senior recital.

Applied music in the M.M. in performance program: Candidates for the M.M. degree in performance will, after demonstrating sufficient standing through a qualifying performance, take at least two semesters of applied music instruction in a solo instrument or voice. Two semesters of credit in ensemble participation are required and can be met through performance in a chamber or larger ensemble. In place of the thesis usually required for graduate degrees, candidates will meet a threefold requirement—that is, prepare a full, balanced recital of music newly learned during the M.M. program, write a substantial paper giving historical and stylistic orientation to the music, and learn a complete concerto or a complete vocal role from an opera or oratorio. The primary goal of the M.M. degree in performance is the mastery of techniques and standards necessary for professional performance.

The piano proficiency requirement: In all three curricula open to the undergraduate music major, every student who is specializing on something other than a keyboard instrument will also develop and/or demonstrate sufficient proficiency at the piano to meet certain minimal standards, as determined by his particular course of study and as tested any time before graduation by the Chairman of Instruction in Piano. This proficiency is interpreted to mean at least the ability to read acceptably at sight hymns in four-part writing and familiar songs with simple idiomatic piano accompaniments, to perform pieces acceptably at the level of Clementi's Sonatinas, and to utilize acceptably the basic techniques of keyboard harmony in all keys, especially melody harmonization and simple modulations. In order to meet these standards, students with little or no keyboard experience usually need to take a one half-hour lesson weekly for from two to four semesters (without credit except in the B.M.Ed. program).

Required piano ensemble: In addition to the requirement that all undergraduate music majors participate in at least one of the larger ensemble groups each semester (except the final B.M.Ed. semester), all students specializing in piano and organ will take Piano Ensemble Course (1A-8A) throughout their undergraduate study of these instruments.

Applied music fees: Fees for individual instruction are $37.25 per semester for one half-hour lesson a week or $74.50 per semester for one hour lesson a week. Fees for class instruction, instrumental or vocal, are $15.00 per semester for each student. The fee for one hour of daily practice in a room with piano is $6.00 per semester; for two hours of practice daily, $10.50 per semester. (Advanced piano students may arrange to do at least part of their practicing on grand pianos.) Other fees are in proportion. The fee for six hours practice a week on the Möller or Reuter practice organ, $24.50 per semester. Most of the standard orchestra and band instruments are available on a rental basis, at a charge of from $3.00 to $6.00 per semester.

NOTE: Individual instruction at the prefreshman level in the A.B. and B.M. programs is not listed here since it carries no credit. Any student may register for this instruction as needed or desired, at the start of each semester.

In the following listings for applied music courses, the first digit (s) indicate the particular music curriculum, with 1 for the A.B. program and nonmusic majors, 2 for the B.M.Ed. program, 3 for the B.M. program, and 23 for the M.M. program; the final digit indicates the semester, 1-8; and the capital letter indicates the instrument or voice. (Thus, 23C means B.M.Ed., third semester, organ.

11B, 12B, 13B, 14B, 15B, 16B, 17B, 18B PIANO (½ or 1 each). Individual instruction for A.B. music and nonmusic majors. *One half-hour or one hour lesson a week, each semester.*

21B, 22B, 23B, 24B, 25B, 26B, 27B, 28B PIANO (1 or 2 each). Individual instruction for B.M.Ed. majors or for B.M. majors minoring in this instrument. *One half-hour or one hour lesson a week, each semester.*

31B, 32B, 33B, 34B, 35B, 36B, 37B, 38B PIANO (4 each). Individual instruction for B.M. majors. *One hour lesson a week, each semester.*

231B, 232B, 233B, 234B GRADUATE (advanced) PIANO (3 each). Individual instruction for M.M. candidates. *One hour lesson a week, each semester.*

Other instruments and voice have listings, values, and hours corresponding to those for piano except for the capital letter in each designation, as follows:

C ORGAN
D VOICE
E VIOLIN AND VIOLA
F VIOLONCELLO
G STRING BASS
H HARP
J FLUTE
K CLARINET AND SAXOPHONE
L OBOE AND BASSOON
M TRUMPET AND FRENCH HORN
N TROMBONE AND TUBA
P PERCUSSION
Q OTHER INSTRUMENT

CLASS INSTRUCTION

NOTE: In the following listings the single digit indicates the semester, 1-2, and the capital letter indicates the instrument or voice corresponding to the letter designation for the applied music courses above. Each class will meet any semester that the demand warrants, with two hours of class instruction weekly, plus daily practice. Instructors will be announced.

1B, 2B PIANO CLASS (1 each).

1D, 2D VOICE CLASS (1 each).

1E, 2E STRING CLASS (1 each).

1J, 2J WOODWIND CLASS (1 each).

1M, 2M BRASS CLASS (1 each).

1P PERCUSSION CLASS (1).

Ensemble Courses for Undergraduates and Graduates

NOTE: Except for the last two, the following ensemble courses meet a minimum of two hours a week every semester at one hour credit per semester for undergraduates and one-and-one-half for M.M. candidates (M.M. candidates receive credit under the course numbers 251-254 with the appropriate suffix to denote the particular ensemble).

1R, 2R, 3R, 4R, 5R, 6R, 7R, 8R UNIVERSITY SYMPHONY ORCHESTRA. Alden, Slocum.

1V, 2V, 3V, 4V, 5V, 6V, 7V, 8V MARCHING BAND AND/OR CONCERT BAND. Prerequisite, approval of the instructor by audition at the start of the first semester. Marching Band members are excused from regular Physical Education classes during the marching season. Henry, Schmidt, Yesulaitis.

1X, 2X, 3X, 4X, 5X, 6X, 7X, 8X UNIVERSITY CHORUS. Zarr.

1Y, 2Y, 3Y, 4Y, 5Y, 6Y, 7Y, 8Y MEN'S GLEE CLUB. Carter, Porco.

1Z, 2Z, 3Z, 4Z, 5Z, 6Z, 7Z, 8Z OPERA THEATRE. Mason.

1A, 2A, 3A, 4A, 5A, 6A, 7A, 8A PIANO ENSEMBLE (½ each, undergraduate credit only). *One hour a week, each semester.* Staff.

1T, 2T, 3T, 4T, 5T, 6T, 7T, 8T OTHER INSTRUMENTAL OR VOCAL ENSEMBLE (½ or 1 each). *One half-hour or one hour a week, each semester as the demand warrants.* Staff.

251-252-253-254 GRADUATE MUSIC ENSEMBLE I, II, III, IV (1½ each). Prerequisite, admission to Master of Music in Performance program. Three hours a week, each semester. *Fall and spring.* Staff.

DEPARTMENT OF NAVAL SCIENCE

Professor: REX W. WARNER, *Captain,* USN
Associate Professor: ALVIN D. HUFF, *Commander,* USN
Assistant Professors: WILLIAM R. FISHER, JR., *Lieutenant Commander,* USN; HOWARD L. COOK, *Major,* USMC; SIMEON FIELDS, *Lieutenant Commander, Supply Corps,* USN; JOSEPH A. NOVELLINE, JR., *Lieutenant,* USN; DONALD B. TRANTHAM, *Lieutenant,* USNR; ALBERT W. GARD, *Lieutenant,* USN
Instructors: F. L. HAYNES, MSGT, USMC; S. D. JONES, QMC, USN; C. A. TAYLOR, YNC, USN; J. D. NIDA, SKC, USN; B. G. PAYNE, MMC, USN

General Information

The Naval ROTC unit of The University of North Carolina at Chapel Hill was established in 1941, as one of fifty-three college and university units authorized by Congress in 1926. The purpose of the Naval Reserve Officers Training Corps is to provide a source of highly qualified officers for the Naval service. Students who obtain a baccalaureate degree in approved subjects, and who satisfactorily complete the required course of study in Naval Science and participate in the summer training cruises, may be commissioned in the Navy or the Marine Corps or their reserve components.

Students are enrolled in the Naval ROTC in two categories: Regular and Contract.

Regular Category: These students are selected by a nationwide competitive examination and interview process. Normally all high school seniors and high school graduates under age twenty-one are eligible. Applications must be submitted by early November of each year.

Contract Category: These students are selected generally by an interview process from those students applying for enrollment during the summer preceding their entrance into the University or during Freshman Orientation Week. Students in this category are considered excellent prospects for the Regular Category should they desire to make application to enter this selection process.

Regardless of the category, all students enrolled in the Naval ROTC receive the same instruction, wear the same uniform and must meet the same academic requirements with the exception that students enrolled as Contract NROTC students, while not required to complete one course in physics, are encouraged to do so.

General Eligibility Requirements

Each candidate for the Naval ROTC must:

1. Be a male citizen of the United States.
2. At the time of his enrollment, if a minor, have the consent of his parent or guardian.
3. Be not less than seventeen nor more than twenty-one years of age on July 1 of the year in which he enters the program. (Contract student may be enrolled if sixteen years of age on July 1 of the year in which he enters the program.)
4. Gain his own admittance to the University.
5. Agree to remain unmarried until commissioned.
6. Enter into a contract with the Secretary of the Navy, agreeing to accept a commission, if offered.
7. Be physically qualified in accordance with the requirements for the U. S. Naval Academy.
8. If a Contract student, agree to accept a commission, if offered, as an Ensign, U. S. Naval Reserve or Second Lieutenant, U. S. Marine Corps or U. S. Marine Corps Reserve, and serve three years on active duty upon completion of college training.
9. If a Regular student, agree to accept a commission, if offered, and to serve at the pleasure of the President as an Ensign, U. S. Navy, or Second Lieutenant, U. S. Marine Corps.

Further information regarding application for and admission in the Naval ROTC may be obtained from any Navy Recruiting Station, any established Naval Reserve Unit, or by addressing an inquiry to the Professor of Naval Science, The University of North Carolina at Chapel Hill, Chapel Hill, N. C.

Campus Status

Each Naval ROTC student is required to wear a Naval Midshipman uniform while attending scheduled drill and Naval Science laboratory exercises and at certain other designated campus functions that are associated with the Naval ROTC Unit. Other than the above, each student leads the same campus life as students not enrolled in the Naval ROTC. He may participate in any scholarship aid program and, if necessary, may obtain outside employment to assist in financing his educational expenses. He is also encouraged to participate in varsity and intramural sports, as he may desire, and in other campus student activities.

Military Status

A student enrolled in the Regular NROTC Category is appointed a Midshipman, Naval Reserve, and is, in fact, a member of the national military organization.

A student enrolled in the Contract Category has the status of a civilian who has entered into a contract with the Secretary of the Navy, and as such, initially has no official status. However, in order to be eligible for continuation in the program for advanced training, i.e., the last two academic years, Contract students must enlist in a reserve component of the Navy or Marine Corps.

Both categories are referred to as "NROTC Students" or "Midshipmen" and both categories wear the Midshipman uniform as required.

Draft Deferment

A student enrolled in the Naval ROTC will be deferred from the draft (Selective Service Act of 1948 and Universal Military Training Act of 1951) if:

1. He pursues the Naval ROTC courses for four full years, including the summer training period applicable to his status as Contract or Regular student.
2. As a Contract student, he signs an agreement to accept a commission, to retain this commission for a period of six years, and to serve not less than three years on active duty as an officer.
3. As a Regular student, he signs an agreement to accept a commission, to retain this commission for a period of six years, and to serve not less than four years on active duty as an officer.

Summer Training

Regular students: All Regular students are required to take two summer cruises and one summer period of aviation-amphibious indoctrination, usually of eight weeks' duration each. The cruises are

made on board modern warships. The aviation indoctrination is usually conducted at Corpus Christi, Texas, and the amphibious indoctrination is usually conducted at Little Creek, Virginia.

Contract students: Contract students are required to take one summer cruise during the summer between their junior and senior years, the cruise being of approximately six weeks' duration.

Regular and Contract students who elect to become candidates for a Marine Corps commission will be ordered to Officers Candidate School at Quantico, Virginia, for a period of six weeks between their junior and senior years.

Travel expenses for both Regular and Contract students from the University to the summer training site and return are furnished by the government. In addition, all students receive active duty pay during summer training amounting to approximately $152.00 per month.

Emoluments, Textbooks, and Uniforms

Students in each of the categories of Naval ROTC students receive certain emoluments and certain defrayments of expenses while so enrolled.

Regular category students: These students are granted the compensations and benefits authorized by law for a period not exceeding four years. The Navy pays the costs of tuition, fees, and all textbooks. Necessary uniforms are provided and students receive retainer pay of $50 per month except during summer training periods when the higher active duty rate of pay applies. Reimbursement is also provided for cost of initial travel to Chapel Hill.

Contract category students: For these students the Navy provides the necessary uniforms and Naval Science textbooks. During the last two years they receive retainer pay at the rate of $40 per month, except during the summer training period when the higher active duty rate of pay applies.

Graduate Study

In order to provide greater depth and diversification of the educational background of officers commissioned from the NROTC program, both Regular and Contract students may, when approved by the Navy, delay their required active duty for the purpose of pursuing graduate study. Under certain circumstances, selected Regular students may be sponsored in their graduate studies with the active duty rank of Ensign with pay and allowances of this rank.

Curriculum

The University does not grant a degree in the field of Naval Science. Students in the Naval ROTC major in areas approved by the Professor of Naval Science and take Naval Science courses as electives. They are

governed by the rules of the appropriate division regarding the distribution of such courses among departmental, divisional, and nondivisional courses.

Specifically, the eight courses taken in the Department of Naval Science by a student who completes the normal four-year program prescribed by the Naval ROTC represent 25 semester hours of academic credit entered in the student's permanent record. Six of these courses (representing 19 semester hours) may be offered as electives for graduation credit by the student who satisfactorily completes the Naval ROTC program and, at the same time, meets all requirements of his particular degree program. The other two Naval Science courses (six semester hours) represent an addition to the minimum requirement for graduation.

The 19-semester hours graduation credit is secured by substitution of Naval Science courses for academic electives. In the General College, the Naval ROTC student may offer three Naval Science courses (including Psychology 26, replacing Naval Science 22), representing 10 semester hours as electives. In the College of Arts and Sciences or undergraduate professional school, he may offer three additional Naval Science courses, representing nine semester hours. Distribution of these electives must conform to the student's particular degree pattern and must be approved by his academic dean or adviser.

All students take the same basic courses in the first two years. In the junior and senior years students who desire to apply for commissions in the Marine Corps may elect courses 63-64 and 83-84. Students who desire to apply for commissions in the Naval Supply Corps may elect courses 65-66 and 85. All courses are three lectures and two laboratory periods a week except 22 (see below).

11 PRINCIPLES OF SEA POWER (3). A study of Navy customs and traditions. Sea power and its use as an instrument of national policy. *Fall.* Gard.

12 THE HISTORY OF SEA POWER (3). A survey of Naval and Maritime history emphasizing the evolution of sea power and its influence upon history. *Spring.* Gard.

21 NAVAL WEAPONS SYSTEMS (3). A survey of Naval Weapons including ordnance types and design, electronic detection devices, guided missile systems, and nuclear weapons. *Fall.* Trantham.

22 GENERAL PSYCHOLOGY (For description see Psychology 26) (4). *Three lectures and one laboratory period; plus two additional laboratory periods a week in Naval weapons. Spring.* Civilian members of the University faculty.

61 NAVIGATION AND NAUTICAL ASTRONOMY (3). Principles, methods, and problems of dead reckoning, piloting, electronic and celestial navigation. *Fall.* Fisher.

62 NAVAL OPERATIONS AND TACTICS (3). Theory of relative motion, methods of fleet communication, concepts of operational staff planning. Basic Naval tactics and maneuvers. *Spring.* Fisher.

63 EVOLUTION OF THE ART OF WAR ON LAND (3). History of land combat from 400 B.C. to date, development of weapons and tactics. (1967-1968 and alternate years.) *Fall.* Cook.

64 MODERN BASIC STRATEGY AND TACTICS (3). Military organization, tactics, strategy and military policy. (1967-1968 and alternate years.) *Spring.* Cook.

65 NAVY SUPPLY SYSTEM: SUPPLY MANAGEMENT AFLOAT (3). Introduction and analysis of the Navy Supply System organization. Principles and operation of Supply Management Afloat. (1966-1967 and alternate years.) *Fall.* Fields.

66 SUPPLY MANAGEMENT AFLOAT (3). Prerequisite, 65. Continuation of 65 emphasizing material and financial responsibility of the Supply Corps business manager. (1966-1967 and alternate years.) *Spring.* Fields.

81 PRINCIPLES OF NAVAL ENGINEERING (3). Nuclear and thermodynamic principles and their application to Naval engineering systems; theoretical damage control and ship stability. *Fall.* Novelline.

82 PRINCIPLES AND PROBLEMS OF LEADERSHIP (3). A study of the psychological principles of human relations, stressing problems of command, management, and moral leadership. *Spring.* Novelline.

83 HISTORY OF AMPHIBIOUS WARFARE (3). History of modern amphibious warfare with emphasis on strategic decisions concerning the use of amphibious operations. (1966-1967 and alternate years.) *Fall.* Cook.

84 AMPHIBIOUS DOCTRINE, MILITARY LAW AND MILITARY LEADERSHIP (3). Review of current U. S. doctrine for amphibious operations. Principles and procedures of administering military justice. Principles of military leadership. (1966-1967 and alternate years.) *Spring.* Cook.

85 PRINCIPLES AND PROBLEMS OF NAVAL RETAIL MANAGEMENT (3). Organization, administration, and operation of retail merchandising afloat, emphasizing budgeting, cost control, operational analysis and evaluation, and retail research. (1967-1968 and alternate years.) *Fall.* Fields.

DEPARTMENT OF PATHOLOGY[1]

Professors: K. M. BRINKHOUS,[2] J. B. GRAHAM,[2] G. D. PENICK, R. D. LANGDELL, G. T. STEWART

Visiting Professors: H. Z. LUND, P. KOTIN

Associate Professors: M. C. SWANTON, W. R. BENSON, R. H. WAGNER, N. F. RODMAN, JR., W. D. HUFFINES, H. R. ROBERTS[3]

Assistant Professors: J. D. GERATZ, H. V. NINO, F. G. DALLDORF, R. A. GOYER, R. G. MASON, JR.,[4] W. P. WEBSTER, J. C. HATHAWAY, JR., S. W. NYE, M. R. KRIGMAN, J. R. PICK, JR.

Visiting Assistant Professor: J. U. GUNTER

Visiting Lecturers: W. W. MCLENDON, J. C. PICKREL, E. A. SHARPLESS

Instructors: F. D. HAMRICK III, R. A. WEAVER, F. K. WIDMANN, C. N. CARNEY

Research Associates: J. C. PAINTER, E. S. BARROW, R. C. ELSTON, I. I. DEJANOV, J. W. HAMPTON[5]

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1. This is also a department in the School of Medicine. Therefore some of its courses are taught by the quarter and semester. The credit in parentheses after the course title is in semester hours.
2. Alumni Distinguished Professor of Pathology.
3. Lederle Medical Faculty Awardee.
4. Markle Scholar.
5. Visiting from University of Oklahoma School of Medicine, September 1, 1966 to March 31, 1967.

Part-time Research Associates: ELISABETH SOMMER, SOLANGE AMOS
Postdoctoral Fellows: D. O. ADAMS, R. F. ALBERT, J. R. EDWARDS, J. B. HAMMOND, L. D. HENRY, J. P. HURT, R. V. LAND, G. B. LEGRAND, W. D. MCLESTER, D. E. MOORESIDE, S. SABA, D. E. SCARBOROUGH, R. W. SHERMER, T. M. SODEMAN, R. L. SMITH, H. L. TAYLOR
Consultant in Oral Pathology: G. C. HUNTER

Courses for Undergraduates

52 CLINICAL PATHOLOGY (3). Prerequisites, general chemistry and one course in zoology. A course designed to give undergraduate students an introduction to hematology, urinalysis, and some of the technical procedures commonly employed in hospital and biological research laboratories. *One lecture and four laboratory hours a week, spring semester.* Hamrick, Albert.

90ab PATHOLOGY FOR PHYSICAL THERAPY STUDENTS (5). Prerequisites, anatomy, histology, and physiology. A series of lectures and demonstrations of pathologic processes. *Four and a half lecture, and one laboratory hours a week, fall quarter; two lecture and one laboratory hours a week, winter quarter.* Geratz.

Courses for Graduates and Advanced Undergraduates

155 GENETIC SYSTEMS (3). No prerequisites. A beginning course in genetics with the lectures arranged to develop the principles of inheritance while also acquainting students with the research potential of various organisms commonly used in genetic investigations. *Three lecture hours a week, fall semester.* Graham; others.

161abc PATHOLOGY (15). Prerequisites, anatomy, histology, physiology, biochemistry. *Four lecture, two conference, and nine laboratory hours a week, fall and winter quarters; one and one-half hour clinico-pathologic conference, spring quarter.* Staff.

162 EXPERIMENTAL PATHOLOGY. Hours, credits, and instructor to be arranged.

170 SPECIAL AND CLINICAL PATHOLOGY (3⅔). Prerequisite, Pathology 161a. Designed for dental students. *Three lecture and five laboratory hours a week, winter quarter.* Staff.

Courses for Graduates[6]

211 SURGICAL PATHOLOGY (5). (3⅓). Prerequisite, Pathology 161a. *Two conference and six laboratory hours a week, to be arranged.* Staff.

212 AUTOPSY PATHOLOGY (5). (3⅓). Prerequisite, Pathology 161a. *Two conference and six laboratory hours a week, to be arranged.* Staff.

220 NEUROPATHOLOGY (5). (3⅓). Prerequisite, Pathology 161a. Systematic study of the more common diseases of the nervous system. *Two conference and six laboratory hours a week, spring and summer.* Krigman.

221 HEMATOPATHOLOGY (5). (3⅓). Prerequisite, Pathology 161a. A tutorial course to introduce the advanced student to techniques and problems of disorders of the blood and blood forming tissues. *Two conference and six laboratory hours a week, fall.* Langdell, Hathaway.

6. May be arranged as semester or quarter courses. Credit is indicated only as semester hours.

222 HUMAN GENETICS AND CONSTITUTIONAL PATHOLOGY (5). (3⅓). Prerequisite, Pathology 161a. A tutorial introductory course in the field of human genetics. It includes elementary statistics, basic genetic theory, and practical field work. *Two conference and six laboratory hours a week, fall.* Graham.

223 SPECIAL METHODS IN PATHOLOGY (5). (3⅓). Prerequisite, Pathology 161a. A tutorial course in specialized techniques as electron, fluorescent and phase microscopy, chromatography, histochemistry, and electrophoresis. *Two conference and six laboratory hours a week, spring.* Staff.

301 SEMINAR IN PATHOLOGY (3). (2). Prerequisite, Pathology 161a. *Three hours a week, to be arranged.* Staff.

302 RESEARCH IN PATHOLOGY (3⅓ or more each). Prerequisite, permis-
303 sion of the Department. *Ten laboratory hours a week, to be arranged.* Staff.
304

393 MASTER'S THESIS.

394 DOCTORAL DISSERTATION.

400 GENERAL REGISTRATION (0).

DEPARTMENT OF PHARMACOLOGY[1]

Professors: P. L. MUNSON, *Chairman,* T. C. BUTLER,[2] F. W. ELLIS
Associate Professors: B. BAGGETT, L. S. HARRIS, J. B. HILL, P. F. HIRSCH, W. J. WADDELL[2]
Visiting Associate Professor: A. D. CARE
Assistant Professors: R. N. ANDERSEN, D. T. POOLE[2]
Instructors: G. L. COPPOC, T. C. PENG
Research Associates: N. J. HOCHELLA, L. L. TACKETT
Postdoctoral Research Fellows: C. W. COOPER, L. L. DARAGO, W. L. DEWEY, J. H. DORRINGTON, H. ORIMO, A. B. WASTHED

Course for Undergraduates

55 PHARMACOLOGY (3½). Prerequisites, all preceding courses in chemistry, zoology, bacteriology, and physiology in the pharmacy curriculum. A course for pharmacy students. *Two lecture and three laboratory hours a week, spring semester.* Harris; associates.

Courses for Graduates

134 PHARMACOLOGY (3⅔). A course for dental students. *Four lecture and three laboratory hours a week, winter quarter.* Baggett; associates.

171 PHARMACOLOGY (7⅓). A course primarily for medical students. *Eight lecture and six laboratory hours a week, spring quarter.* Munson; associates.

1. This is also a department in the School of Medicine which operates on the quarter system. Therefore, some of its courses are taught by the quarter. The credit in parentheses after the course title is in semester hours.
2. Center for Research in Pharmacology and Toxicology.

DEPARTMENT OF PHILOSOPHY

Professors: W. D. FALK, *Chairman*,[1] E. M. ADAMS, VIRGIL C. ALDRICH, GEORGE SCHLESINGER,[2] STEPHEN A. EMERY[3]
Associate Professor: RICHARD A. SMYTH, *Graduate Adviser*
Assistant Professors: EDWARD M. GALLIGAN, JOHN HEINTZ, W. WINSLOW SHEA, JAY F. ROSENBERG, ROBERT D. VANCE, RICHARD H. ZAFFRON
Visiting Assistant Professor: CHARLES S. TRAVIS
Instructor: O. HARVEY GREEN, JR.[4]
Research Associate: LISE WALLACH[5]
Part-time Instructors: C. THOMAS ANDREWS, ALFRED F. MACKAY, RICHARD D. PARRY, JOHN J. PENICK, JOSEPH L. POETKER, CHARLES W. THOMPSON, H. EDWARD THOMPSON III
Graduate Assistants: E. CARRINGTON BOGGAN, PAMELA S. CABARGA, J. CHRISLEY HACKLER, DAVID A. LOVE, RUSSELL T. MCCABE, ROBERT B. REDMON, JR., G. DIANA DEMME WOODWARD
Research Assistant: T. HERBERT GUERRY III

The Department of Philosophy is a member of the Humanities, Social Sciences, and Natural Sciences divisions of the College of Arts and Sciences. Philosophy may be taken as an elective, as a major or as part of a double major by students in any of these divisions; it may also be taken to meet certain General College requirements (mathematics-logic-classics requirement and the sophomore social science requirement).

For beginners, Philosophy 20 is recommended as a first course for those interested in philosophical issues and their cultural significance; 21 for those interested in the nature of argument and training in clarity of thought and logical rigor; 22 for those seeking clarification and understanding of moral thought and experience; 31 for those who wish to investigate the logic of inquiry in both the formal and the empirical sciences. Philosophy 21 and 31 may be taken to meet the General College mathematics-classics-logic requirement.

Philosophy 52, 56, 58, and 59 are for undergraduates with a more mature interest in philosophy. Courses on the 100 level are for advanced undergraduates, graduates and for students in the natural and social sciences, information science, and literature, with an interest in philosophical problems connected with their special subject matter.

An undergraduate student planning a philosophy major will elect the Department of Philosophy as in one of the three divisions of Humanities, Social Sciences and Natural Sciences and will be governed by the rules of that division regarding the distribution of his work among departmental, divisional, and nondivisional courses. Each student will decide his junior and senior program in consultation with his adviser. He will have to take at least six courses above the 50 level in the area of philosophy. Any two courses out of Philosophy 20, 21, and 22 are

1. James G. Hanes Professor of the Humanities in Philosophy.
2. Effective, spring semester, 1967.
3. Professor, Emeritus.
4. Fall semester, 1966-1967 and spring semester, 1967.
5. Lecturer in Psychology, 1962-1966; Research Associate in Philosophy, beginning 1966.

prerequisites for philosophy majors (exemptions with the consent of the Department). Philosophy 56, 58, and 96 are required. Philosophy 59, 101, 102 and 110 are especially recommended, though the student is welcome to make other choices according to his interests. Majors interested in a degree with honors should consult page 51 of this Catalogue and their departmental adviser.

Prospective candidates for advanced degrees in philosophy should consult the catalogue of the Graduate School.

Courses for Undergraduates

20 GENERAL INTRODUCTION TO PHILOSOPHY (3). The nature of philosophical thinking; philosophical ideas in Western civilization. *Fall and spring.* Adams, Aldrich; staff.

21 INTRODUCTORY LOGIC (3). *Fall and spring.* Staff.

22 INTRODUCTORY ETHICS (3). *Fall and spring.* Staff.

31 INTRODUCTORY LOGIC OF SCIENCE (3). *Fall and spring.* Schlesinger.

52 INTRODUCTORY PHILOSOPHY OF RELIGION (Religion 52) (3). A philosophical inquiry into the problems of religious experience and belief, as expressed in philosophic, religious and literary documents from traditional and contemporary sources. *Fall and spring.* Staff.

56 ANCIENT PHILOSOPHY (3). No prerequisite. The development of Western philosophic thought from its inception with the early Greeks to the Hellenistic period. An examination of the writings of the Pre-socratics, Plato, Aristotle, Epicureanism, Stoicism, Neoplatonism, and Greek Skepticism. *Fall and spring.* Galligan.

58 BEGINNINGS OF MODERN PHILOSOPHY (3). No prerequisite. A critical study of selected works of Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, Kant. *Fall and spring.* Vance.

59 EXPERIENCE, KNOWLEDGE AND REALITY (3). Some previous course is recommended. Perception, introspection, truth, knowledge and belief, the external world and other minds will be among the topics selected for discussion. *Fall and spring.* Staff.

96 COLLOQUIUM FOR PHILOSOPHY MAJORS (3). Discussion of selected philosophical topics. Required for Philosophy majors, normally to be taken in the spring semester of their junior year. *Spring.* Vance.

99 DIRECTED READINGS (3). See the Chairman of the Department. *Fall and spring.* Staff.

100a, 100b COURSES FOR HONORS (3 each). See the programs for honors work in the College of Arts and Sciences.

Courses for Graduates and Advanced Undergraduates

(Prerequisite, one course below 100, or consent of instructor.)

101 SYMBOLIC LOGIC (Information Science 104) (Linguistics 104) (3). Introductory. *Fall.* Heintz.

102 ETHICS (3). A critical study of the major tendencies in the history of the philosophy of ethics and their relationship to the development of other modes of thought. *Fall.* Falk.

103 AESTHETICS (3). Development of a comprehensive and systematic philosophy of art and criticism through examination of contrasting aesthetic theories and works of art. *Spring.* Shea.

104 HEGEL, MARX AND THE PHILOSOPHICAL CRITIQUE OF SOCIETY (3). The roots of certain trends in modern social, political and psychological thought as found in the philosophy of Hegel and developed by Marx, Nietzsche and others. Ideology and conflict, alienation, dialectic. *Fall.* Shea.

105 SOCIAL AND POLITICAL PHILOSOPHY (Political Science 161) (3). An examination of the logic of social and political thought with an analysis of such concepts as society, state, power, authority, freedom, social and political obligation, law, rights. *Spring.* Falk.

106 PHILOSOPHY OF MATHEMATICS (3). Prerequisite, Philosophy 101 or equivalent background in logic or mathematics. Discussion of philosophical problems concerning logic and the foundations of mathematics. *Fall.* Heintz.

107 PHILOSOPHY, HISTORY AND THE SOCIAL SCIENCES (Sociology 107) (3). Philosophical problems which bear on the writing of history and the study of human behavior. The nature of historical explanation, structural and functional explanation, the weighing of historical testimony, the concept of meaning, normative judgments and predictions in the social sciences. *Fall.* Zaffron.

108 PHILOSOPHY OF NATURAL SCIENCES (3). Concept formation, verifiability, law, explanation, the role of logic and mathematics in the sciences, and other topics. *Fall.* Schlesinger.

109 PHILOSOPHICAL PROBLEMS IN PSYCHOLOGY (3). Topics such as the following: the nature and validation of psychological concepts, laws, and theoeries; theories of mind, with emphasis on the comparative study of such concepts as motivation, intention, emotion, and action. *Spring.* Zaffron.

110 PHILOSOPHY OF LANGUAGE (Information Science 110) (Linguistics 110) (3). A study of important contemporary contributions in philosophy of language, meaning, reference and truth. *Spring.* Travis.

111 INTERMEDIATE SYMBOLIC LOGIC (Information Science 105) (3). Presupposes propositional and quantificational logic as basis for further deductive development, with special attention to selected topics among the following: alternative systems, logical grammar of formalized languages, logical and semantical paradoxes, modal logic, and foundations of mathematics. *Spring.* Heintz.

142 PHILOSOPHY IN LITERATURE (Comparative Literature 142) (3). A study of selected literary classics from ancient times to the present, emphasizing changing approaches to such perennial problems as the nature and destiny of man; evil, freedom, and tragedy. *Fall.* Shea.

(Prerequisite, 56 or 58 or consent of the instructor.)

150 PLATO (3). An examination of some representative works of Plato, with reference to common emphases and basic problems, together with an analysis of their philosophic content. *Fall.* Galligan.

151 ARISTOTLE (3). An examination of some representative works of Aristotle, with reference to common emphases and basic problems, together with an analysis of their philosophic content. *Spring.* Galligan.

152 THE DEVELOPMENT OF MEDIEVAL PHILOSOPHY (Religion 152) (3). Selected philosophical topics from the writings of Augustine, Abelard, Thomas Aquinas, Duns Scotus, William of Ockham. To include: knowledge, universals, individuation, the theory of distinctions.

153 CONTINENTAL RATIONALISM (3). The metaphysical systems of Descartes, Spinoza, and Leibniz as seventeenth-century attempts to reconcile the medieval tradition and the early developments of modern natural science. *Fall.* Smyth.

154 BRITISH EMPIRICISM (3). An epistemological study of Locke, Berkeley, and Hume. *Spring.* Aldrich.

155 KANT (3). A study of Kant's critical philosophy as rooted in eighteenth-century rationalism and empiricism and as initiating German idealism. *Spring.* Smyth, Vance.

156 HEGEL (3). Hegel's Absolute Idealism: its roots in Kant's critical philosophy and its influence on subsequent thought in Europe and America.

158 EXISTENTIALISM AND PHENOMENOLOGY (3). A study of one or two major systematic works in this area by Sartre, Heidegger or Merleau-Ponty. *Spring.* Shea.

159 AMERICAN PHILOSOPHY (3). The emergence of systematic American philosophy from its matrix in earlier theological, social, and literary thought. Chief emphasis on the late nineteenth and early twentieth centuries. *Spring.* Smyth.

Courses for Graduates

201 LOGIC (3). Advanced. Prerequisite, Philosophy 101 or equivalent; Philosophy 111 recommended. A research course in application of logic to special philosophical problems in logic, semantics, and the foundations of mathematics. *Spring.* Heintz.

203 METAPHYSICS (3). A systematic study of metaphysical problems. *Spring.* Adams.

204 EPISTEMOLOGY (3). A systematic study of epistemological problems. *Fall.* Adams.

205 VALUE THEORY (3). A systematic study of problems in value theory. *Spring.* Falk.

206 STUDIES IN CONTEMPORATY ANALYTIC PHILOSOPHY (3). A detailed examination of selected texts in this area. May be repeated for credit with the approval of the Department. *Fall.* Staff.

208 PHILOSOPHY OF RELIGION (3). A systematic study of problems in the philosophy of religion.

300 PROTO-SEMINAR IN PHILOSOPHY (3). A seminar, preparatory for graduate work in philosophy, in which papers on a variety of current philosophic issues are written, read and discussed. For first-year graduate students in the Department. *Spring.* Galligan, Heintz.

301 SEMINAR IN ANCIENT AND MEDIEVAL PHILOSOPHY (3). An examination of typical problems and philosophic issues found in the study of classical and medieval authors. May be repeated for credit. Staff.

304 SEMINAR IN MODERN PHILOSOPHY (3). May be repeated for credit. Staff.

305 SEMINAR IN SYSTEMATIC PHILOSOPHY (3). May be repeated for credit. *Fall and spring.* Staff.

311 READINGS IN PHILOSOPHY (3). May be repeated for credit. *Fall and spring.* Staff.

393 MASTER'S THESIS (Variable). *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION (Variable). *Fall and spring.* Staff.

400 GENERAL REGISTRATION (0).

DEPARTMENT OF PHYSICAL EDUCATION

Professors: R. E. JAMERSON, *Chairman,* G. E. SHEPARD, W. H. PEACOCK, C. S. BLYTH, E. M. ALLEN

Associate Professors: RUTH W. FINK, W. W. RABB

Assistant Professors: MARY F. KELLAM, FRANCES B. HOGAN, P. F. EAREY, B. W. LOVINGOOD, M. Z. RONMAN, D. E. SKAKLE, RUTH PRICE,[1] HAROLD L. GLAD

Instructors: DIANA D. WELLS, B. L. NEWNAM, MARY LOUISE CRANFORD, JOHN N. PYECHA, RONALD W. HYATT, WILLIAM H. KILLEN, ROSALIE L. MCDONALD

Lecturer: SALVATORE R. ESPOSITO

Consultant: O. K. CORNWELL[2]

Part-time Instructors: J. T. HILTON, EMMETT CHEEK, J. W. ATHERTON, J. C. LOTZ, C. B. ROBINSON

Graduate Assistants: W. G. BURGIN, J. G. COLES, C. K. CONNOR, D. W. CORLESS, H. C. CORLESS, MARGARET L. COX, G. F. DAVIES, MARILYN G. EDWARDS, R. W. EDWARDS, T. M. FUTCH, J. W. HALL, JR., R. S. HARRIS, G. J. KUZNIAR, EMILY M. MOORE, L. D. ROBERTS, JR., J. M. ROBEY, J. A. ROSS, CAROL S. SIMONES, ELIZABETH C. UMSTEAD, R. D. WADE, D. C. WALL

The purpose of the work of the Department of Physical Education can be stated as follows: (1) to teach the knowledge and skills of individual and team sports, aquatics and the dance; (2) to provide the professional education for teachers in the field of health and physical education; (3) to provide a program of adaptive physical education for the atypical student; (4) to provide for all students through the intramural program opportunities for voluntary participation in competitive and recreational activities.

Major requirements for students working for an A.B. in Education are: Physical Education 75, 76, 77, 78, 79, 86, 87, 88, 89 for men and women; and 65, 66, 67 for men or 55, 56, 57 for women.

For those working toward an A.B. in Arts and Sciences requirements in the major are: Physical Education 75, 76, 77, 78, 86, 87 or 88 and two courses from 65, 66, 67 for men or 55, 56, 57 for women.

For those working toward an A.B. in Arts and Sciences and who may desire to take physical education as a second major the requirements are: Physical Education 77, 86, 88, 127 and two courses from 65, 66, 67 for men and 55, 56, 57 for women.

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1. Assistant Professor, Emeritus.
2. Professor, Emeritus.

All majors in the School of Education must have for teacher certification in North Carolina the following: Zoology 11, Education 41, 71, 72b, 99, 63, 64.

Courses for Undergraduates

1 2 PHYSICAL EDUCATION (1 each). Required of freshmen men *Four hours a week, fall and spring.* Staff.

3 4 PHYSICAL EDUCATION (1 each). Required of sophomore men. *Four hours a week, fall and spring.* Staff.

21W 22W PHYSICAL EDUCATION (1 each). Required of freshmen women. *Four hours a week, fall and spring.* Staff.

31W 32W PHYSICAL EDUCATION (1 each). Required of sophomore women *Four hours a week, fall and spring.* Staff.

41 PHYSICAL EDUCATION (3). Elective, open to all men. Personal and community health for men. This course deals with basic concepts of personal and community health in modern society. Mental health, physical fitness, health products and services, understanding chronic and degenerative diseases, and problems of medical care are considered. *Three hours a week, fall and spring.* Staff.

42 PHYSICAL EDUCATION (3). Elective, open to all women. Personal and community health for women. This course deals with basic concepts of personal and community health in modern society. Mental health, physical fitness, health products and services, understanding chronic and degenerative diseases, and problems of medical care are considered. *Three hours a week, fall and spring.* Staff.

For Women Who Are Majoring in Physical Education:

55 PHYSICAL EDUCATION (3). Methods and materials in volleyball, hockey, track and field, soccer, speedball, basketball, archery, recreational games, and elementary school physical education activities. (1967-1968 and alternate years.) *Ten laboratory hours a week, fall.* Hogan, Kellam, Fink, Cranford.

56 PHYSICAL EDUCATION (3). Methods and materials in folk, square, social, and modern dance, camp counselling, and softball. *Ten laboratory hours a week, spring.* Kellam, Hogan, Wells.

57 PHYSICAL EDUCATION (3). Methods and materials in tennis, golf, swimming, stunts and tumbling, life saving, badminton and fencing. (1966-1967 and alternate years.) *Ten laboratory hours a week, fall.* Kellam, Hogan, Wells.

For Men Who Are Majoring in Physical Education:

65 PHYSICAL EDUCATION (3). Methods, materials, techniques and skills in teaching and coaching baseball, track, football, and basketball. (1966-1967 and alternate years.) *Ten hours a week, fall.* Rabb, Hilton, Cheek, Lotz.

66 PHYSICAL EDUCATION (3). Methods, materials, techniques and skills in teaching dancing, gymnastics, tennis, badminton, and wrestling. *Ten hours a week, spring.* Wells, Peacock, Killen, Skakle.

67 PHYSICAL EDUCATION (3). Methods, materials, techniques and skills in teaching and coaching swimming, golf, handball, volleyball, soccer, speed-

ball, recreational games, and tumbling. (1967-1968 and alternate years.) *Ten hours a week, fall.* Earey, Jamerson, Allen, Ronman, Kellam, Killen.

For Undergraduate Majors in Physical Education:

75 ANATOMY (3). This course is designed to teach the fundamentals of anatomy as they apply functionally to the area of health and physical education. *Fall.* Blyth.

76 PHYSIOLOGY (3). Prerequisite, Physical Education 75 or the equivalent of Zoology 11, 41. A lecture course in elementary physiology, covering the various systems of the body. *Spring.* Blyth.

77 PRINCIPLES OF PHYSICAL EDUCATION (3). Open to all students as an elective course. A study of the relationship and contribution of physical education to general education; historical background, basic biological, physiological, psychological, and sociological backgrounds of the modern program. *Fall and spring.* Jamerson, Allen, Glad.

78 SCHOOL AND COMMUNITY HEALTH (3). Open to majors only. The purpose of the course is to give the student an understanding of the principles and problems of personal, school and community health as they apply to everyday living. *Spring.* Earey.

79 TESTS AND MEASUREMENTS IN PHYSICAL EDUCATION (3). This course is designed to acquaint students with tests and measurements in the fields of health and physical education, test construction, scoring and methods of using results. *Fall.* Peacock.

83a PHYSICAL EDUCATION FOR THE ELEMENTARY SCHOOL (3). This course deals with the selection of materials and methods of physical education in the elementary school. Elective for men majoring in physical education and required of elementary education majors, other students must secure written permission of instructor. *Fall and spring.* Kellam, Fink, Hogan.

83b PHYSICAL EDUCATION (3). This course deals with the methods and materials of teaching physical education for girls in the junior and senior high school. *Summer session only.* Kellam, Fink.

84 HEALTH EDUCATION FOR THE ELEMENTARY SCHOOL (3). This course includes principles, practices, and procedures in health at the elementary level. The course is required of all majors in elementary education. *Fall and spring.* Earey, Glad.

86 ADMINISTRATION OF HEALTH AND PHYSICAL EDUCATION (3). This course deals with the policies and problems of organization and administration of health and physical education programs in schools. *Fall.* Fink, Shepard.

87 ADAPTED PHYSICAL EDUCATION (3). Prerequisite, anatomy and physiology. This course is a study of problems relating to body mechanics, and the needs of the physically handicapped student. *Fall.* Rabb, Fink.

88 SAFETY, FIRST AID, ATHLETIC INJURIES (3). Open to majors in physical education, recreation and education; other students by permission of instructor. This course considers the problems of safety in public schools, the theory and practice of first aid, and the care and treatment of athletic injuries. *Spring.* Earey, Fink.

89 APPLIED PHYSIOLOGY OF EXERCISE AND KINESIOLOGY (3). Prerequisites, zoology, anatomy, and physiology, or their equivalents. The appli-

cation of physiological and kinesiological principles applied to muscular activity. Emphasizes the mechanics of bodily movements and the role of exercise in physical growth and development. *Two lecture and two laboratory hours a week, fall.* Lovingood.

Courses for Graduates and Advanced Undergraduates

120 PRINCIPLES OF PHYSICAL EDUCATION (3). Prerequisite, undergraduate work in education and psychology. *Fall.* Jamerson.

121 ADMINISTRATION OF PHYSICAL EDUCATION (3). *Spring.* Shepard, Fink.

123 SCHOOL HEALTH EDUCATION (3). Prerequisite, basic courses in science. *Fall.* Earey.

126 ADAPTED PHYSICAL EDUCATION (3). Prerequisites, anatomy and physiology, or equivalent. *Spring.* Rabb, Fink.

127 INTRAMURAL AND EXTRAMURAL ACTIVITIES FOR SCHOOLS AND COLLEGES (3). *Fall.* Allen.

Courses for Graduates

220 TESTS AND MEASUREMENTS IN HEALTH AND PHYSICAL EDUCATION (3). *Spring.* Peacock.

221 PHYSIOLOGY OF EXERCISE (3). Prerequisites, zoology, anatomy, and physiology. *Three lecture and four laboratory periods a week, spring.* Blyth.

222 PRINCIPLES OF HEALTH EDUCATION (3). Prerequisite, adequate background in science. (Not offered in 1966-1967.) *Spring.*

224 SCHOOL AND COMMUNITY HYGIENE (3). Prerequisite, adequate background in science. (Not offered in 1966-1967.)

225 RESEARCH TECHNIQUES AND MODERN PROBLEMS IN PHYSICAL EDUCATION (3). Prerequisites, experience and advanced work in physical education and education. *Fall.* Peacock, Shepard.

226 HISTORY OF THE DANCE (3). (a) Dance in primitive cultures; in ancient Egypt, Greece, and Rome; in the medieval period. (b) The court ballet; modern dance; theatre dance; dance in education. (Not offered in 1966-1966.)

320 RESEARCH IN PHYSICAL EDUCATION (3). Prerequisites, experience and advanced work in the field. Staff.

341abc SEMINAR COURSE (3 each). Prerequisites, adequate training and experience, and permission of the instructor. *Fall and spring.* Jamerson, Shepard, Peacock, Blyth.

400 GENERAL REGISTRATION (0).

DEPARTMENT OF PHYSICS

Professors: E. MERZBACHER, *Acting Chairman*,[1] J. H. CRAWFORD, JR., *Chairman*,[2] P. E. SHEARIN, W. A. BOWERS, OTTO STUHLMAN, JR.,[3] J. W. STRALEY, E. D. PALMATIER,[4] B. S. DEWITT,[5] D. G. SHARP (Biophysics), L. M. SLIFKIN, A. T. STEWART, N. UNDERWOOD (Public Health)
Adjunct Professor: M. S. DAVIS
Visiting Research Professor: C. M. DEWITT
Visiting Professors: M. SILVER, R. UTIYAMA
Associate Professors: W. E. HAISLEY,[6] P. S. HUBBARD, C. V. BRISCOE,[6] E. N. MITCHELL, S. CHOI, H. VAN DAM
Visiting Associate Professor: T. IMAMURA
Assistant Professors: H. KESSEMEIER, T. W. NOONAN, E. J. LUDWIG, R. E. SCROGGS, D. SCHROEER
Visiting Research Assistant Professor: K. MASUDA
Research Associates: A. P. BATRA, M. F. BAUD, W. G. BRAUNSS, D. CUTLER, J. G. KENWORTHY, A. L. LASKAR, R. F. MARZKE, D. G. ONN, L. G. ROWAN, D. SCHROEER, P. SMEJTEK, P. WILHJELM
Instructors: J. P. HERNANDEZ, L. E. PARKER, D. S. HALL, R. S. KNAPP, C. REINHOLD, P. B. PETERS, L. G. ROWAN
Teaching Fellow: L. A. COLEMAN
Teaching Assistants: D. O. ALLISON, E. F. BORIE, J. A. BUTLER, W. C. COLLINS, J. T. DONNELLY, D. W. HESS, W. J. HUFF, J. P. KARKHECK, J. D. LANDRY, J. S. LEGG, K. J. LEZUO, J. G. LIPHAM, W. S. MCEVER, C. E. NASH, F. C. NEWMAN, R. C. NININGER, W. P. O'BRIEN, J. H. OVERTON, P. B. PETERS, J. W. PLAGE, W. A. POLLANS, R. T. RICHARD, W. P. RICKEY, C. G. ROBERTS, R. C. SAUNDERS, C. D. SPENCER, S. C. SYLVESTER, F. C. TAYLOR, K. I. WERNER

Students may work toward either a B.S. degree in physics or an A.B. degree with physics as the major. A B.S. degree is preferable, though not mandatory, for students planning to do graduate work in physics.

Candidates for an A.B. degree with physics as the major must satisfy the requirements of the College of Arts and Sciences, which are listed in Part Three of this catalogue, and must complete the following Physics courses: Physics 24, 25 (or 26, 27) Physics 54, 55, 58 (or 107-108), 103, and at least three selected from Physics 61, 101 (or 141), 104, 105, 106, 115, 160, 161, and 169. In addition Mathematics 31, 32, 33, 34, and Chemistry 11, 12 (or 11, 21) must be completed.

The Department also offers an honors program for students who are candidates for a B.S. degree. This program includes advanced course work or research, and an oral examination. Students who wish to enter the honors program should consult with their departmental advisers not later than the preregistration period in the spring semester of their junior year.

1. September 1, 1965 to January 31, 1967.
2. Effective February 1, 1967.
3. Professor Emeritus; died December 8, 1965.
4. Kenan Professor
5. Agnew H. Bahnson, Jr. Professor of Physics; absent on leave, fall semester, 1966.
6. Absent on leave, September 1, 1966 to September 1, 1967.

Requirements for Bachelor of Science in Physics[7]

GENERAL COLLEGE

For freshman and sophomore years see "General College," Part III.

JUNIOR YEAR

English 33, or two semesters of a second foreign language (French, German, or Russian)
Mathematics 121, 124
Physics 103, 104, 107, 108
Two nondivisional electives

SENIOR YEAR

Physics 105, 106, 141, 160, and 161, 162, or 169
Two nondivisional electives

Courses for Undergraduates

20 BASIC CONCEPTS OF PHYSICS (4). No prerequisite. A one-semester course in the fundamental principles of physics. Topics to be covered include the elements of mechanics, wave motion, electricity, and light followed by an introduction to quantum physics and relativity. A substantial portion of the course will be concerned with the evolution of our understanding of the physical world and our knowledge of atoms, nuclei, and particles. This course cannot be submitted for credit for graduation if the student also submits Physics 24-25, or 26-27. *Three lecture and two laboratory hours a week, fall and spring.* Staff.

24 25 GENERAL PHYSICS (4 each). Prerequisite, Mathematics 15, or equivalent. *Two lecture, one recitation, and two laboratory hours a week, fall and spring.* Shearin, Peters, Mitchell.

26 27 GENERAL PHYSICS (4 each). Corequisites, Mathematics 31, 32. A more thorough and rigorous introduction to the fundamental principles of physics than is offered in Physics 24, 25. Especially designed for students intending to major in physics, chemistry or mathematics. *Four hours lecture and recitation, two hours laboratory a week, fall and spring.* Slifkin, Mitchell; staff.

31 DESCRIPTIVE ASTRONOMY (4). A study of the celestial sphere, time, earth, moon, eclipses, sun, solar system, stars, the Milky Way, extra-galactic systems, cosmogony, and earth satellites. *Three lecture and two laboratory hours a week, fall and spring.* Noonan, Hall, Knapp.

32 GENERAL ASTRONOMY (3). Prerequisites, Astronomy 31, Mathematics 31, and Physics 24. A more intensive study of the subjects in Astronomy 31 with emphasis on such selected topics as spectroscopic analysis of stars, the Hertzsprung-Russell Diagram, typical, stellar systems, and modern cosmogonies. *Three lecture hours a week, spring. On demand.* Noonan.

45 PHOTOGRAPHY (4). *Three lecture and three laboratory hours a week, fall.* Scroggs.

54 MODERN DEVELOPMENTS IN PHYSICS (3). Prerequisite, Physics 27 (or 25 with permission of the instructor). *Three lecture hours a week, fall.* Underwood.

7. Astronomy 32 may be substituted for one of the physics courses required for a B.S. in physics, provided that the course replaced is not a prerequisite essential to later work.

55 INTRODUCTION TO MODERN PHYSICS LABORATORY (1). Corequisite, Physics 54. Laboratory course to accompany Physics 54. *Three laboratory hours a week, fall.* Underwood.

58 BASIC ELECTRICITY AND MAGNETISM (4). Prerequisites, Physics 25 and Mathematics 33. Electric fields and potentials; dielectrics; steady currents; magnetic flux and magnetic materials; electromagnetic induction; behavior of charged particles in electric and magnetic fields; transients; alternating currents. *Three lecture and three laboratory hours a week, spring.* Straley.

61 INTRODUCTION TO THE TECHNIQUES OF PHYSICS (4). Prerequisite, Physics 27 (or 25 with permission of the instructor); corequisite, Mathematics 33. The elements of probability, statistics, complex numbers, multiple integrals, partial differentials, vector analysis, and special relativity. Some practice in basic computer programming. One laboratory period per week, based on AC circuits and analagous mechanical systems, accompanies the lectures. *Three lecture and three laboratory hours a week, fall and spring.* Students intending to major in physics should register for the spring term; all others are advised to register for the fall. Palmatier.

91 RESEARCH AND SPECIAL TOPICS FOR SENIORS (2 each). To be taken
92 by honors candidates and other qualified seniors. Staff.

93 SENIOR SEMINAR (2). To be taken by seniors with permission of department adviser. *Upon demand.* Staff.

Courses for Graduates and Advanced Undergraduates

101 INTRODUCTORY ELECTRONICS I[8] (4). Prerequisite, introductory physics or permission of the instructor. This course is designed to give students a sound working knowledge of basic electronic principles. *Three lecture and three laboratory hours a week, fall and spring.* Scroggs.

102 INTRODUCTORY ELECTRONICS II[8] (4). Prerequisite, Physics 101, or permission of the instructor. This course, which is based directly on Physics 101, emphasizes the functional aspect of electronic equipment. *Three lecture and three laboratory hours a week, spring.* Scroggs.

103 MECHANICS I[8] (3). Prerequisites, Physics 27 (or 25 with permission of instructor) and Mathematics 33. Vectors. Kinematics of particle motion. Motion of a particle; central forces, Newton's law of gravitation, projectile motion, planetary motion. Motion of a system of particles and conservation laws. Statics. Translational and rotational motion of rigid bodies. Constrained motion. Wave motion on a string. *Three lecture hours a week, fall.* Van Dam.

104 MECHANICS II[8] (3). Prerequisite, Physics 103. Elements of computer programming. Deformable bodies and wave motion. Hydrostatics and hydrodynamics. Lagrange's and Hamilton's equations; Hamilton's principle, small oscillations, normal coordinates. Special theory of relativity. *Three lecture hours a week, spring.* Van Dam.

105 HEAT, THERMODYNAMICS, AND KINETIC THEORY[8] (4). Prerequisites, Physics 27 (or 25 with permission of the instructor) and Mathematics 33. Equations of state; reversibility; the thermodynamic laws, internal energy, enthalpy, entropy, thermodynamic potentials; the Maxwell equations. Equipartition theorem; the Maxwell velocity distribution; thermodynamic probability; the partition function; Maxwell-Boltzmann, Fermi-Dirac, and

8. Physics 101-115 are not to be taken for graduate credit by graduate students in physics.

Bose-Einstein statistics. *Three lecture and two recitation hours a week, fall.* Choi.

106 OPTICS[9] (4). Prerequisites, Physics 107 and 108, or (with permission of the instructor) Physics 58. Elements of geometrical optics; Huyghens' principle, interference, diffraction, and polarization. Elements of the electromagnetic theory of light; Fresnel's equations, dispersion, absorption, and scattering. Photons; elements of quantum theory of light. Lasers and quantum optics. *Three lecture and three laboratory hours a week, spring.* Rowan.

107 ELECTRICITY AND MAGNETISM[9] (4 each). Prerequisites, Physics 61
108 and Mathematics 33. Brief treatment of d-c and a-c circuit theory. Electrostatics; dielectrics; the magnetic field; magnetic materials. Maxwell's equations and their application to electro-magnetic waves. *Three lecture and three laboratory hours a week, fall and spring.* Straley.

115 THE EVOLUTION OF PHYSICAL IDEAS[9] (3). Prerequisites, Physics 25 and Mathematics 15, or permission of the instructor. A systematic study of the growth of modern physical beliefs and concepts from the time of Copericus. Ptolemaic and Copernican Astronomy; background, emergence and scientific impact of the Newtonian system. Early theories of light; nineteenth-century confirmation of the wave theory of light, discovery of its electromagnetic nature; theories of the luminiferous ether. Einstein's theory of special relativity and its philosophical implications; the philosophy of "operationalism" and its influence on present-day thought in physics. *Three lecture hours a week, spring.* Haisley.

141 ELECTRONICS (3). Prerequisites, Physics 103 and 107 (or 58, with permission of the instructor), Mathematics 124. An introduction to basic electronics with emphasis on circuitry. Amplifiers and oscillators, using both vacuum tubes and transistors are discussed by the equivalent circuit method of analysis. Pulse and wave shaping circuits. *Two lecture and three laboratory hours a week, spring.* Mitchell.

146 PHYSICAL ELECTRONICS (3). Prerequisites, Physics 141 and 160. *Three lecture hours a week, either semester, as announced.* Silver.

160 INTRODUCTION TO QUANTUM MECHANICS (3). Prerequisites, Physics 103 and 108, or permission of the instructor. Origins of the quantum theory; wave-particle duality and the uncertainty relations, elementary wave mechanics; solutions of the Schroedinger equation for simple systems, including the hydrogen atom. Spin; exclusion principle, atomic spectra of many electron atoms. *Three lecture hours a week, fall.* Hernandez.

161 NUCLEAR PHYSICS (3). Prerequisite, Physics 160 or equivalent. Nuclear structure, nuclear reactions, experimental techniques of producing and studying nuclear particles; models of the nucleus; nuclear forces. *Three lecture hours a week, spring.* Ludwig.

162 ELEMENTARY PARTICLE PHYSICS (3). Prerequisite, Physics 160 or equivalent. Kinematics of elementary particle processes. Implications of particle spin and statistics. Time development of simple systems and the concept of transitions. Symmetry and conservation laws. Strong, electromagnetic, and weak interactions. Classification of hadrons. Production and detection of elementary particles. *Three lecture hours a week, spring.* Van Dam.

169 INTRODUCTORY SOLID STATE PHYSICS (3). Prerequisite, Physics 160 or equivalent. Crystal symmetry, types of crystalline solids; electron and mechanical waves in crystals, electrical and magnetic properties of solids,

9. Physics 101-115 are not to be taken for graduate credit by graduate students in physics.

semiconductors; low temperature phenomena; imperfections in nearly perfect crystals. *Three lecture hours a week, spring.* Stewart.

170 SOLID STATE PHYSICS (3 each). Prerequisite, Physics 160 or equivalent.
171 Topics considered include those of Physics 169, but at a more advanced level, and in addition a detailed discussion of the interaction of waves (electromagnetic, elastic, and electron waves) with periodic structures; e.g., x-ray diffraction, phonons, band theory of metals and semiconductors. *Fall and spring.* Stewart, Bowers.

181 ADVANCED LABORATORY (3 each). Prerequisites, Physics 103, 108 or
182 permission of the instructor. *Six laboratory hours a week, fall and spring.* Stewart, Kessemeier.

191 MATHEMATICAL METHODS OF THEORETICAL PHYSICS I (3). Prerequisites, Physics 26, 27, or equivalent; Mathematics 124 (Mathematics 121 desirable but may be taken concurrently). Ordinary differential equations, with emphasis on series solutions; special functions; boundary-value problems and characteristic function representations. Vector analysis. *Three lecture hours a week, fall.* Bowers.

192 MATHEMATICAL METHODS OF THEORETICAL PHYSICS II (3). Prerequisite, Physics 191 or permission of the instructor. Matrices, determinants, and linear equations. Partial differential equations; Green's functions; integral equations. *Three lecture hours a week, spring.* Hubbard.

193 CLASSICAL DYNAMICS (3). *Fall.* Van Dam.

194 ELECTROMAGNETIC THEORY (3 each). *Fall and spring.* Kessemeier.
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Courses for Graduates

221 STATISTICAL MECHANICS (3). Prerequisite, Physics 193; Physics 260 is desirable. (1967-1968 and alternate years.) *Spring.* Bowers, Choi.

260 QUANTUM MECHANICS (3 each). Prerequisite, Physics 160. *Fall and*
261 *spring.* Parker.

262 ADVANCED QUANTUM MECHANICS (3). Prerequisite, Physics 261. *Fall.* Merzbacher.

263 QUANTUM FIELD THEORY (3). Prerequisite, Physics 262. *Spring.* B. DeWitt, Van Dam.

265 NUCLEAR MAGNETIC RESONANCE AND RELAXATION (3). Prerequisite, Physics 260. *Either semester as announced.* Hubbard.

267 CURRENT ADVANCES IN PHYSICS (3). Prerequisite, permission of the instructor. In recent years, elementary particle physics and coherence in quantum optics have been among the topics discussed. *Either semester as announced.*

268 THEORETICAL NUCLEAR PHYSICS (3). Prerequisite, Physics 261. *Spring as announced.* Merzbacher.

271 THEORY OF THE SOLID STATE (3). Prerequisite, Physics 261. (1966-1967 and alternate years.) *Spring.* Hernandez.

275 THEORY OF RELATIVITY (3). Prerequisites, Physics 193, 194. *Either semester as announced.* C. DeWitt.

288 PRINCIPLES OF CHEMICAL PHYSICS (3 each). Prerequisite, Physics
289 160 or Chemistry 281 or permission of the instructor. The quantum mechanics of molecules and their aggregates. Atomic orbitals, Hartree-Fock

methods for atoms and molecules. Theory of diatomic molecules. Molecular orbital and valence bond approach. Coupling between vibrational, rotational and electronic motions in molecules. Interaction of radiation with matter. Special topics of interest to the instructor and research students. *Three lecture hours a week, fall and spring.* Choi.

301 RESEARCH (3 or more). *Ten or more laboratory or computation hours a week, fall or spring.* Graduate staff.

310 SEMINAR IN THEORETICAL PHYSICS (1 or more). *Either semester, as announced.* Staff.

320 SEMINAR IN LOW TEMPERATURE PHYSICS (1 or more). *Either semester, as announced.* Staff.

360 SEMINAR IN NUCLEAR PHYSICS (1 or more). *Either semester, as announced.* Staff.

364 SEMINAR IN MOLECULAR PHYSICS (1 or more). *Either semester, as announced.* Staff.

370 SEMINAR IN SOLID STATE PHYSICS (1 or more). *Either semester, as announced.* Staff.

380 SEMINAR IN PARTICLE PHYSICS (1 or more). *Either semester, as announced.* Staff.

393 MASTER'S THESIS. *Either semester.* Staff.

394 DOCTORAL DISSERTATION. *Either semester.* Staff.

400 GENERAL REGISTRATION (0).

DEPARTMENT OF PHYSIOLOGY[1]

Professors: J. H. FERGUSON, *Chairman,* A. T. MILLER, JR., E. KOKAS, C. W. GOTTSCHALK, R. W. STACY
Associate Professors: J. H. PERLMUTT, L. R. YONCE, R. L. GLASSER, N. A. COULTER, JR.
Assistant Professors: L. RABINOWITZ, R. G. FAUST
Instructor: E. G. W. ENNIS
Lecturer: W. S. MCCLELLAN
Research Associates: S. HITSUMOTO, N. B. WHITE, M. LEADBETTER
Teaching Assistants: Z. GOTTESFELD, G. BEER, R. MCDONAGH

Courses for Graduates and Advanced Undergraduates[2]

51 PHYSIOLOGY (3½). Prerequisites, Chemistry 11-21, Zoology 41. A general course for students in the School of Pharmacy. Available as an elective to selected undergraduate students, by permission of the Chairman of the Department. *Two lecture and three laboratory hours a week, fall.* Ferguson, Ennis; staff.

90 PHYSIOLOGY (6). Prerequisite, permission of the Chairman of the Department. Required of all physical therapy students. *Five lecture and eight laboratory hours a week, winter quarter.* Staff.

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1. This is also a department in the School of Medicine which operates on the quarter system. The credit in parentheses after the course title is in semester hours.
2. Course for students in the School of Nursing (formerly Physiology 53) is under revision.

106 PHYSIOLOGY (6). Prerequisite, permission of the Chairman of the Department. Required of all dental students and available to graduate students. *Five lecture and eight laboratory hours a week, winter quarter.* Staff.

141a PHYSIOLOGY (3⅓). Prerequisite, permission of the Chairman of the Department. Offered only in conjunction with Physiology 141b in the succeeding quarter. Required of all medical students and graduate students majoring in physiology. *Three lecture and four laboratory hours a week, winter quarter.* Staff.

141b PHYSIOLOGY (8⅔). Prerequisite, Physiology 141a. *Six lecture and twelve laboratory hours a week, spring quarter.* Staff.

160 INTRODUCTION TO AUTOMATIC DIGITAL CONTROL (Information Science 160) (4). Prerequisites, Mathematics 31, 32, 33. Principles of servomechanisms, feedback, response speed, stability, realizability, accuracy. Digital control techniques, sample-data systems, Z-transform methods. *Three lecture and two laboratory hours a week, fall.* Coulter, Stacy.

Courses for Graduates

201 TOPICS IN CELL BIOLOGY (5). Prerequisites, Zoology 120 and 220; Biochemistry 103 and 104. Required of all graduate students majoring in physiology. Selected topics are explored in depth by means of lectures, seminars, and laboratory exercises. *Three lecture and four laboratory hours a week, spring.* Staff.

202 ADVANCED MAMMALIAN PHYSIOLOGY (5). Prerequisites, Physiology 141a, 141b; Biochemistry 103 and 104. An intensive coverage of selected aspects of the function of mammalian organ systems. *Three lecture and four or more laboratory hours a week, fall.* Staff.

203 ADVANCED MAMMALIAN PHYSIOLOGY (5). Prerequisites, Physiology 141a, 141b; Biochemistry 103 and 104. An intensive coverage of selected aspects of the function of mammalian organ systems. *Three lecture and four or more laboratory hours a week, fall.* Staff.

211 SPECIAL TOPICS IN PHYSIOLOGY (5). Prerequisite, permission of the instructor. Individually arranged programs of study in depth of selected topics. *Fall.* Staff.

212 SPECIAL TOPICS IN PHYSIOLOGY (5). Prerequisite, permission of the instructor. Individually arranged programs of study in depth of selected topics. *Spring.* Staff.

220 SEMINAR (1). Prerequisite, Physiology 141a, 141b. Weekly seminars emphasizing current literature. *Fall.* Staff.

221 SEMINAR (1). Prerequisite, Physiology 141a, 141b. Weekly seminars emphasizing current literature. *Spring.* Staff.

301, 302, 303 RESEARCH IN PHYSIOLOGY (3-10 each). *Fall, spring, and summer.* Staff.

393 MASTER'S THESIS (3). *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION (3). *Fall and spring.* Staff.

400 GENERAL REGISTRATION (0).

DEPARTMENT OF POLITICAL SCIENCE

Professors: F. N. CLEAVELAND, *Chairman*, W. W. PIERSON,[1] K. C. FRAZER, C. B. ROBSON,[2] P. W. WAGER,[3] W. S. JENKINS, F. G. GIL,[2] D. G. MONROE, S. S. JONES,[4] J. W. PROTHRO,[5] D. R. MATTHEWS, R. A. RUPEN, A. M. SCOTT
Visiting Professor: O. DEMING
Associate Professors: G. B. CLEVELAND, E. WALLACE, R. H. DAWSON, R. T. DALAND, J. D. MARTZ[5]
Assistant Professors: W. FLEMING, L. LIPSITZ, W. KEECH, A. LIND, J. SCHWARTZ, S. HOWARD, A. HEADLEY
Lecturers: L. HARRIS, R. LINEBERRY, D. TABB, W. S. FLASH
Visiting Assistant Professor: A. CIRIA
Instructor in Extension Teaching: D. C. RHYNE
Instructors in Modern Civilization: J. DIMMICK, R. BIRCHALL
Part-time Instructors: M. ALPERT, K. COLEMAN, J. EIFORT, W. COOGAN, T. FOWLER, S. KEISER, R. KEISER, D. KOENIG, C. LONGLEY, P. LONGLEY, P. PAVLIK, J. PEELER, H. REYNOLDS, S. SINDING, R. VANCE, S. WAITE, L. WALKER, S. WATTERS, P. WELLSTONE, E. WILDE, G. WINHAM, P. SHIVELY, P. KOZICKI, A. SHINN, F. KLEIN, K. RAWLINGS, D. TABB
Graduate Assistants: R. BUCK, T. CHRISTENSEN, G. BYRNE, R. HUDSON, S. HUGHES, L. IRWIN, P. IRWIN, J. KIEKE, A. LATIF
MPA Graduate Assistants: G. GRIZZLE, A. LEMKE, W. FLEXNER
Research Assistants: D. FRIEDMAN, L. QUIROS, J. STIMSON, P. HARKINS, P. HARTJENS
Taconic Faculty Fellow: A. REED
Teaching Fellow: T. HENNESSEY
Career Teaching Fellow: M. FEINSTEIN

The requirements for the A.B. with a major in political science are Political Science 41 (or the equivalent) and Political Science 52, both with a grade of *C* or better, at least one additional exclusively undergraduate course (selected from Political Science 42, 51, 53, 55, 56, 58, 63, 75, 86, 87, and 88), and a sufficient number of political science courses to make a total of nine. The courses must be distributed among at least three of the several fields of political science: (1) local, state, and federal government in the United States; (2) public administration; (3) foreign and comparative government; (4) international law and relations; and (5) political theory and jurisprudence. There must, however, be a certain degree of concentration in one of these fields.

Also, in choosing courses, selections should be made which support the field of concentration. These requirements can be met and still allow an assembly of courses dealing with a specific geographic area such as Latin America.

Training for Public Service

For students seeking professional training for careers in the public service, the Department, with the cooperation of the Institute of Government, offers a program leading to the Master of Public Administration degree. This program is designed for graduate students interested

1. Kenan Professor, Emeritus; Died April 23, 1966.
2. Kenan Professor.
3. Professor, Emeritus.
4. Burton Craige Professor.
5. Absent on leave, 1966-1967.

in positions in urban management, public personnel administration, and other generalist or specialized posts in the public service. This degree can be completed in two academic years and includes basic required courses, an area of specialization, a thesis, and an extensive internship for a minimum of eight months in a public agency in the student's area of specialization. Students from varying undergraduate backgrounds are eligible for admission to this program provided they have had at least nine semester hours of work in political science.

The undergraduate major in political science provides a sound foundation for such professional training programs in public administration. Through the major in political science a student will also build the necessary foundation for entry into the public service and for effective performance on various civil service entrance examinations, even without the benefit of professional graduate education. For students planning to enter the public service, regardless of undergraduate major, the following courses are recommended, consistent with other College requirements: Political Science 41, Economics 31-32 (or 61), Psychology 26, Political Science 101, History 72 or 114, Economics 70 and 74, and English 30.

The Department will be glad to advise students interested in preparing for the public service.

Honors Program

Students with an over-all average of *B* or better may enroll in the Department's honors program. The program presents a number of advantages to qualified students. Instruction takes place in small seminars and individual conferences. Honors candidates are given maximum opportunity to engage in independent reading, research, and writing. The requirements for the regular major in political science are relaxed, thus permitting more flexible programs. Successful completion of the program results in the achievement of an A.B. with Honors in Political Science, or with Highest Honors in Political Science.

Those students planning to do honors work must take Political Science 90, the undergraduate seminar in "Contemporary Problems of Political Science," during the spring semester of their junior year. During their senior year, honors students are required to take an honors seminar (Political Science 91) and to write an honors paper (Political Science 92).

Students interested in the honors program should see Lewis Lipsitz, the Chairman of the Department's Committee on Honors, during the fall semester of their junior year.

Political Studies Program

The Political Studies Program offers special opportunities and facilities for the study of American politics. This program aims to give graduate and undergraduate students a firsthand knowledge of American politics through personal participation, observation, and study. The Political Studies Program maintains a Politics Laboratory in Caldwell Hall which contains an extensive collection of political party and interest group publications; election laws, maps, and statistics; government publications; public opinion polls; newspapers and magazines; as well as the latest statistical equipment. The Laboratory is used by students in undergraduate and graduate courses and is available for independent research.

Field work projects, involving personal observation and participation in politics, are a part of the Program. A limited number of especially qualified students are also placed as interns in the executive agencies and legislative offices in Washington, D. C., or Raleigh during the summer months.

Courses for Undergraduates

41 INTRODUCTION TO GOVERNMENT IN THE UNITED STATES (3). A basic course in American government, giving attention to the origin and nature of our federal system, and the distribution of powers between the national government and the states, but with major emphasis on national government. *Two lecture and one discussion meeting a week, fall and spring.* Wallace; staff.

NOTE: This course, or the equivalent, is normally a prerequisite for all other political science courses.

42 THE PROCESSES AND PROBLEMS OF GOVERNMENT IN THE UNITED STATES (3). Designed as complementary to Political Science 41. The course deals chiefly with the government in the United States affecting agriculture, labor, and business. *Two lecture and one laboratory hours a week, fall and spring.* G. B. Cleveland; staff.

51 STATE GOVERNMENT IN THE UNITED STATES (3). The organization and operations of state government, including relationship with local governments. *Fall and spring.* Monroe; staff.

52 COMPARATIVE POLITICS: INTRODUCTION TO MAJOR FOREIGN GOVERNMENTS (3). An introductory course on comparative government and politics. Primary attention given to the constitutional development, governmental organization and political problems of such countries as China, France, Germany, Great Britain, and the Soviet Union. *Fall and spring.* Fleming, Robson, Schwartz; staff.

53 THE FAR EAST IN WORLD POLITICS (3). A survey of the international relations of East Asia. Equal emphasis will be placed on the traditional system of foreign intercourse and contemporary political developments. (Not offered in 1966.)

55 SOVIET GOVERNMENT (3). An explanation of the revolution of 1917 and a review of the subsequent power struggle and gradual development of

the USSR. Also an analysis of the effects on communications, education, science, the arts, labor, minority groups, and the family. *Fall and spring.* Rupen, Schwartz.

56 INTRODUCTION TO GOVERNMENT AND POLITICS IN LATIN AMERICA (3). An examination of the principal patterns of the Latin American political process; attention is directed to governmental institutions and to political dynamics. *Fall.* Ciria.

58 AN INTRODUCTION TO THE NATURE AND FUNCTION OF LAW (3). A non-technical course for students of the arts and sciences with a social science approach to the examination of the nature, sources and functions of law. *Fall.* G. B. Cleveland.

63 HISTORICAL SURVEY OF POLITICAL IDEAS (3). A course designed to present a historical and conceptual background for upper-college courses in political thought. Emphasis will be placed upon the development of political ideas prior to the twentieth century. *Fall and spring.* G. B. Cleveland.

75 POLITICAL PARTIES AND ELECTIONS (3). The electoral process and the role of parties in the staffing and operation of government, with emphasis on the United States. The development, structure, operation and place of political parties and interest groups in the American system of government. *Fall and spring.* Staff.

86 INTERNATIONAL RELATIONS AND WORLD POLITICS (3). Analysis of politics among nations: imperialism, balance of power, international morality, sovereignty, diplomacy; analysis of the problem of peace, disarmament, international organizations, world government, diplomacy. *Fall and spring.* Scott, Dawson, Jones, Headley.

87 INTERNATIONAL RELATIONS OF THE LATIN AMERICAN REPUBLICS (3). Historical survey of diplomatic relations of the Latin American republics with the rest of the world with special emphasis upon relations with the United States. *Fall and spring.* Gil.

88 THE UNITED NATIONS (3). A survey of the background, organization, and procedures of the United Nations organization. Lectures, readings. *Fall and spring.* Frazer, Headley; staff.

90 CONTEMPORARY PROBLEMS OF POLITICAL SCIENCE (3). Prerequisite, permission of the instructor. An undergraduate seminar for students planning to do honors work. *Spring.*

91 HONORS COURSE (6). Required of all students reading for honors in
92 Political Science.

Courses for Graduates and Advanced Undergraduates

101 PUBLIC ADMINISTRATION (3). A study of the basic principles of organization, location of authority, fiscal management, personnel management, and forms of administrative action in the public service. *Fall and spring.* Howard.

105 PUBLIC PERSONNEL ADMINISTRATION (3). The setting and current trends in the organization and operation of the personnel functions in municipal, state and federal governments. The concepts of the personnel function—position classification, recruitment, selection, training, supervision employee relations, etc.—are contrasted with current practices. Emphasis is given to the major unresolved policy problems of the public career service. *Fall.* Hayman.

121 THE GOVERNMENT OF GREAT BRITAIN (3). The development and operation of British government in its local and national aspects and an examination of current developments in social and economic policy. (1966-1967 and alternate years.) *Spring.* Fleming, Robson.

122 THE GOVERNMENT AND POLITICS OF FRANCE AND ITALY (3). A comparative analysis of government and politics in contemporary France and Italy. (1966-1967 and alternate years.) *Spring.* Robson.

123 COMMUNIST POLITICAL SYSTEMS (3). This course considers similarities and differences among major communist countries. It deals with such themes as the role of the Party, selection and socialization of elites, impact of political culture on ideology, interest groups and the formulation of policy, the bureaucratization of social, economic, and cultural life, and correlations between levels of modernization and the political process. *Spring.* Schwartz.

124 COMMUNISM IN ASIA (3). This course deals primarily with Russian-Chinese relations but also analyzes the significance of the vast areas of the USSR which lie in Asia and the role of the borderlands of Sinkiang and Mongolia. *Spring.* Rupen.

125 GOVERNMENT AND POLITICS IN GERMANY (3). A study of government and politics in the Federal Republic of Germany against the background of previous regimes and in comparison with current trends in other countries of western Europe. *Fall.* Robson.

126 THE HISPANIC EMPIRES IN AMERICA (3). A study of the political and social institutions in the Spanish and Portuguese colonial systems and their development. *Spring.* Gil.

127 GOVERNMENT OF LATIN AMERICAN STATES (3). The forms of organization, the functions, and the operations of government in Latin America with emphasis on present conditions, tendencies, and peculiar types of institutions. *Fall.* Gil.

129 GOVERNMENT AND POLITICS OF EAST ASIA (3). A study of the indigenous political ideas and institutions of East Asia and the Western influence on Asian government and politics. Primary emphasis upon the political evolution and status of Japan and China. (Not offered in 1967.) *Spring.*

130 GOVERNMENT AND POLITICS OF SUB-SAHARA AFRICA (3). Introduction to the process of political modernization in Sub-Sahara Africa, analyzing current political change in selected areas, emphasizing interrelationship of economic development, cultural change, and political modernization. *Spring.* Fleming.

132 MUNICIPAL GOVERNMENT IN THE UNITED STATES (3). City and town governments; origin, history, forms, functions, and relations to national state, and county governments. *Fall.* Daland.

133 MUNICIPAL ADMINISTRATION IN THE UNITED STATES (3). Administrative organization, procedure, and problems of cities and towns. *Spring.* Hayman.

138 THE STATES IN THE FEDERAL UNION (3). A study of the role of the states in our federal system, as illustrated in such fields as health, welfare, highways, resource management, and law enforcement. *Spring.* Monroe.

140 ASIA AND WORLD AFFAIRS (3). The international relations of East and Southeast Asia with primary emphasis on the analysis and evaluation of contemporary politics of Asian countries in relation to each other, to the United States, and to other world powers. *Spring.* Headley.

141 INTRODUCTION TO INTERNATIONAL LAW (3). A study of the historical development and the principles of the law of nations, together with the organization and procedure of institutions for the peaceful settlement of international disputes. Lectures, readings. *Fall.* Frazer.

142 INTERNATIONAL ORGANIZATION FOR PEACE (3). The efforts of the organized international community to create institution for keeping the peace, with particular attention to the United Nations, the Organization of American States, and the North Atlantic and South East Asia treaty organizations. *Spring.* Frazer.

143 CONTEMPORARY PROBLEMS OF SOVIET FOREIGN POLICY (3). General propositions about contemporary foreign relations of the USSR will be examined through analysis of selected "case studies" in three main categories: relations with other Communist countries, with the United States and the West, and with "uncommitted countries." *Spring.* Rupen.

144 THE ORGANIZATION AND CONDUCT OF THE FOREIGN RELATIONS OF THE UNITED STATES (3). Principal consideration is given to the organization of the government of the United States for the conduct of its foreign relations, e.g., the Department of State, the Foreign Service, etc. *Spring.* Scott.

145 CONTEMPORARY INTERNATIONAL RELATIONS OF THE UNITED STATES (3). The course is suited to students with some knowledge of international relations who wish to study the contemporary foreign policy of the United States. *Fall.* Jones.

146 INTERNATIONAL COMMUNICATIONS AND COMPARATIVE JOURNALISM (Journalism 146) (3). Prerequisite, six semester hours of upper-division courses in international relations or recent European history. *Fall.* Adams.

147 CONTEMPORARY INTER-AMERICAN RELATIONS (3). The evolution of the inter-American security system, recent Pan-American conferences and the activities and problems of the various continental agencies. *Spring.* Ciria.

148 THE MIDDLE EAST IN WORLD POLITICS (3). A study of the contemporary international relations of the Middle East, with emphasis on the internal forces, such as nationalism, and external pressures from the Great Powers. Economic and cultural as well as religious and political factors are examined. *Spring.* Jones.

149 DEFENSE POLICY AND NATIONAL SECURITY (3). A study of national defense policy as affected by the constitutional and political setting, as well as its relation to foreign policy. Some attention to strategic doctrine. *Fall.* Dawson.

150 COMPARATIVE CIVIL-MILITARY POLICIES (3). Analysis of military institutions and organizations as related to the political system; forms and patterns of civil-military politics within democratic and totalitarian systems, and in the developing nations. *Spring.* Dawson.

154 DEVELOPMENT OF THE ENGLISH CONSTITUTION (History 142) (3). Emphasis upon the major constitutional documents and the development of the national political institutions, with considerable attention to the leading constitutional cases and principles of law. *Fall.* Godfrey.

155 THE CONSTITUTION OF THE UNITED STATES (History 175) (3). A study of the fundamental principles of constitutional interpretation and practice in the United States by means of lectures, textbooks, and cases. *Fall and spring.* Wallace, Monroe.

156 URBAN POLITICAL SYSTEMS (3). Characteristics, political processes, and actor behavior in urban political systems. *Fall.* Daland.

159 THE BRITISH COMMONWEALTH OF NATIONS (History 159) (3). From the old colonial system to the constitutional development of the Commonwealth; special attention to Canada and to the important documents of Commonwealth growth, including the most recent ones. *Fall.* Baxter.

161 SOCIAL AND POLITICAL PHILOSOPHY (Philosophy 105) (3). An examination of the logic of social and political thought with an analysis of such concepts as society, state, power, authority, freedom, social and political obligation, law, rights. *Spring.* Falk.

162 AMERICAN POLITICAL THOUGHT (3). An analysis of the ideas underlying government and politics in the United States. *Spring.* Robson.

163 MARXISM AND SOCIALISM (3). A consideration of the political thought of major Marxist and socialist schools, including Marx and Engels themselves, Lenin, contemporary Western Marxism, Utopian socialism, Revisionism, Fabianism, and contemporary socialist concerns. *Spring.* Lipsitz.

165 PROBLEMS OF MODERN DEMOCRATIC THEORY (3). Consideration of major problem areas of democratic theory, including definitions and justifications of democracy, the relationship between capitalism and democracy, equality, the nature and role of the public, dissent and civil disobedience. Readings range from 17th through 20th centuries, from Locke to Paul Goodman. *Fall.* Lipsitz.

166 RECENT AND CONTEMPORARY POLITICAL THOUGHT (3). The theory of constitutional democracy together with an examination of the principal lines of criticism of this form of government and of the ideologies antagonistic to it. *Spring.* G. B. Cleveland.

167 POLITICAL THOUGHT IN LATIN AMERICA (3). An analysis of the development of political philosophy in Latin America with an examination of the evolution of democratic thought. (Not offered spring of 1967.) *Spring.* Martz.

170 PUBLIC OPINION AND POLITICAL PARTICIPATION (3). A study of forces in the development of public opinion and its expression in various political activities. Attention will be given to such questions as the personal needs served by political participation and the effect of formal political institutions and social structure upon such participation. *Spring.* Keech.

180 THE UNITED STATES CONGRESS (3). The legislative process in Congress, with special emphasis on congressional politics and behavior. *Fall.* Matthews.

181 RECENT NATIONAL POLICY AND ADMINISTRATION (3). Additional prerequisite, Economics 31-32 or equivalent. Analytical and critical survey of basic national policies affecting business, labor, agriculture, special groups and industries, and the economy in general. Foreign policy is excluded. *Spring.* F. N. Cleaveland.

191 PUBLIC FINANCE (Economics 141) (3). Additional prerequisite, Economics 31-32 or equivalent. *Fall and spring.* Spruill.

193 PROBLEMS IN STATE AND LOCAL FINANCE (Economics 143) (3). Additional prerequisite, Economics 141 or equivalent. *Spring.* Spruill.

194A SOCIAL STATISTICS (Planning 191) (Sociology 191A) (3). For graduate students only. (See Sociology 191A for description.) *Fall.* Staff.

195 INTERMEDIATE SOCIAL STATISTICS (Sociology 195) (3). Prerequisite, Sociology 191 or equivalent. (See Sociology 195 for description.) *Spring.* Blalock.

197 GOVERNMENT AND BUSINESS (Economics 197) (3). Additional prerequisite, Economics 31-32 or equivalent. *Spring.* Carter

Courses for Graduates

200 THE HISTORY, SCOPE AND METHOD OF POLITICAL SCIENCE (3). A consideration of the evolution and present status of political science as a discipline and as a profession, with emphasis on contemporary research methods and techniques, including the preparation of research reports. *Fall and spring.* Keech.

201 RESEARCH DESIGN (3). Discussion of techniques available for description and causal inferences, and for generation and analysis of data. Research design in prominent works of poiltical science and experience in the designing of projects. *Spring.* Keech.

203 THE AMERICAN POLITICAL SYSTEM (3). A consideration of the processes and institutions of American government and of contemporary approaches employed in their analysis. Attention will be given to the substantive findings and to the assumptions and theoretical foundations of current writing. *Fall and spring.* Matthews.

204 COMPUTER APPLICATIONS TO SOCIAL SCIENCE (Sociology 204) (3). An introduction to computer design and programming, with special attention to a suitable general purpose programming language, an analysis of work in the social sciences in which computers have been utilized, and the development by the student of a project, based on his specialized substantive interest, in which the computer is utilized, whether for statistical analysis, simulation, or in some other manner central to the analysis of his particular problem. *Spring.* Lind.

205 ADVANCED POLITICAL DATA ANALYSIS (3). An examination of techniques for analysis of survey and other data, e.g., content analysis, simulation, linear programming, etc., and work under supervision in the utilization of one or more of these techniques. *Fall.* Lind.

209 PLANNING AND GOVERNMENT (City and Regional Planning 209) (3). Survey of nature and scope of government planning, its relation to other governmental activities, and its administrative and organizational problems. *Fall.* Daland.

210 THE PUBLIC ADMINISTRATOR IN CONTEMPORARY SOCIETY (3). The role of the administrator and public bureaucracy in modern democratic society. Particular attention will be given to the inter-play of forces created by executives, legislators, political parties and interest groups and to the impact of modern science and technology upon administration. *Fall.* Cleaveland.

211 ADMINISTRATIVE THEORY (3). The development of contemporary organizational and decision-making theories and the application of the behavioral sciences to public administration. *Spring.* Cleaveland, Daland.

212 PUBLIC ADMINISTRATION AND POLICY MAKING (3). The decision-making process both within an agency and within the larger context of the total governmental process, policy and program planning, and the implementation of policy. Extensive use of case studies. *Spring.* Daland, Cleaveland.

213 LAW AND PUBLIC POLICY (3). The legal and constitutional dimensions of the administrative process, the role of law in public policy formulation, and the legal relationships between the government and private citizens. *Spring.* Ferrell.

214 BUDGETARY AND FINANCIAL MANAGEMENT (3). Concerned with the setting, practices and problems of modern public fiscal management with special attention to budgetary concepts, techniques and means of analysis suitable to state and municipal governments. *Spring.* Howard.

216 ADMINISTRATIVE RESEARCH AND STATISTICAL ANALYSIS (3). The application of social science research to administrative problems, including attention to designing simple studies, practical exercises in selected methods of gathering, analyzing and interpreting data. *Spring.* Staff.

217 INTERNSHIP SEMINAR IN ADMINISTRATIVE BEHAVIOR AND HUMAN RELATIONS (2). The administrator's role within his agency, leadership, supervision, delegation, programming, developing high morale, and resolving human relations problems. (Open only to students enrolled in the Master of Public Administration Program.) *Fall and spring.* Staff.

218 INTERNSHIP SEMINAR IN THE ADMINISTRATIVE PROCESS (2). Concerned with the agency's mission and authority, administrative procedures, exercise of controls over administrative action, the role of the line administrator and staff specialists, and the applicability of administrative theory to practice. (Open only to students enrolled in the Master of Public Administration Program.) *Fall and spring.* Staff.

221 LEGAL PROBLEMS IN PUBLIC ADMINISTRATION (3). Additional prerequisite, Political Science 101 or equivalent. Legal setting of public administration, emphasizing regulatory activities; administrative legislation, administrative adjudication, procedural restrictions, judicial review of administrative decisions, government and official liability. *Spring.* Monroe.

223 COMPARATIVE GOVERNMENT AND POLITICS (3). A comparative study of contemporary political systems with special attention to those of Continental Europe. *Fall and spring.* Robson, Fleming.

224 SOVIET RUSSIA IN THE MODERN WORLD (3). *Spring.* Schwartz.

227 MODERN POLITICAL PARTIES AND MOVEMENTS IN LATIN AMERICA (3). An analysis of the development, structure, functioning, and role of contemporary political parties and movements in the Latin American political systems. Emphasis will be given to the role of political parties in processes of modernization and revolutionary change. *Spring.* Gil.

231 THE LEGISLATIVE PROCESS (3). (Not offered in 1966-1967.) *Spring.* Staff.

235 INTEREST GROUPS IN THE POLITICAL PROCESS (3). This course deals with problems in the study of interest groups and group theory in political science, including group theory in the analysis of individual behavior and the formation of associations, theoretical approaches to the study of interest groups in the policy process, group politics and representative democracy, interest groups abroad, and the prospects for a cross-national study of interest groups. *Fall.* Keech.

241 INTERNATIONAL LAW (3). A comprehensive study of the law of nations through the discussion of illustrative cases and other documents. Lectures and reports. *Spring.* Frazer.

242 INTERNATIONAL ORGANIZATIONS (3). A study of the structure, processes, and problems of current public organizations for maintaining international peace. Lectures and reports. *Fall.* Frazer.

244 PROBLEMS IN CONTEMPORARY FOREIGN POLICY AND INTERNATIONAL POLITICS (3). *Spring.* Jones.

251 THE ELEMENTS OF POLITICAL SCIENCE (3). A study of the principles of political science and of the important theories respecting the nature, origins, forms and ends of the state and of government. *Fall and spring.* Lipsitz.

255 PROBLEMS IN CONSTITUTIONAL LAW (3). (Not offered in 1966-1967.) *Fall.* Staff.

275 A SYSTEMATIC STUDY OF AMERICAN POLITICAL PARTIES (3). *Fall.* Matthews.

286 INTERNATIONAL POLITICS: THEORY AND PRACTICE (3). *Fall and spring.* Jones, Scott, Dawson.

Seminar Courses for Graduates

Prerequisite, a political science major or the equivalent.

301 INTERNATIONAL POLITICS (3). *Spring.* Jones.

302 INTERNATIONAL INSTITUTIONS (3). (Not offered in 1966-1967.) *Spring.* Frazer.

303 THEORIES OF INTERNATIONAL POLITICS (3). *Fall.* Scott.

321 DIRECTED READING IN STATE AND LOCAL GOVERNMENT (3). *Spring.*

324 THE COMMUNIST WORLD (3). *Spring.* Rupen.

329 THE POLITICS OF DEVELOPMENT AND CHANGE (3). A study of political development. Attention will be focused on the processes of change and modernization in the contemporary nations of Latin America, Africa, and Asia, as well as in small-scale and historical politics. The student will be exposed to various theories of change and provided with the necessary analytical equipment for the investigation of developing areas. *Fall.* Fleming.

330 SEMINAR IN DEVELOPMENT ADMINISTRATION (3). Comparative public administration and planning in developing countries with emphasis on Latin America. *Spring.* Daland.

341 SEMINAR COURSE (3). A research or reading course in a special field. *Fall and spring.* Any member of the graduate faculty.

342 DIRECTED READING IN LATIN AMERICAN GOVERNMENT (3). Essentially a bibliographic seminar; intended to assure familiarity with the the major works in this field. *Fall.* Ciria.

343 DIRECTED READING IN POLITICAL THEORY (3). *Fall or spring.* Robson.

346 SEMINAR IN INTERNATIONAL COMMUNICATION (Journalism 346) (3). Prerequisite, Journalism 146 or permission of the instructor. *Spring.* Adams.

355 RESEARCH IN PUBLIC RECORDS (3). Open to advanced graduate students in any of the social sciences. (Not offered in 1966-1967.) *Spring.* Jenkins.

361 PROBLEMS IN RECENT AND CONTEMPORARY POLITICAL THEORY (3). *Spring.* Robson.

393 MASTER'S THESIS (3). *Fall and spring.* Members of the graduate faculty.

394 DOCTORAL DISSERTATION (3). *Fall and spring.* Members of the graduate faculty.

395 MASTER'S THESIS IN PUBLIC ADMINISTRATION AND IN PERSONNEL ADMINISTRATION (3). *Fall and spring.*

400 GENERAL REGISTRATION (0).

PORTUGUESE

(See Romance Languages)

DEPARTMENT OF PSYCHOLOGY

Professors: EUGENE ROBERT LONG, *Chairman,* JOHN WALTER THIBAUT,[1] JOHN FREDERICK DASHIELL,[2] HAROLD GRIER MCCURDY,[3] WILLIAM JOHN DANIEL, E. EARL BAUGHMAN, WILLIAM GRANT DAHLSTROM, LYLE VINCENT JONES, GEORGE SCHLAGER WELSH, HANS HERMAN STRUPP,[4] MARY GILL CLARKE, HARRIET L. RHEINGOLD, HALBERT B. ROBINSON

Associate Professors: MARCUS B. WALLER, *Assistant Chairman,* GEORGE STANLEY BAROFF, SAMUEL FILLENBAUM, JOHN SCHOPLER,[5] M. DAVID GALINSKY, CARL M. COCHRANE, RICHARD AUSTIN KING, PAUL OBRIST, WILLIAM J. EICHMAN, J. WILBERT EDGERTON, IRVING GOTTESMAN,[6] ROBERT L. VAN DE CASTLE, ELLIOT M. CRAMER, EDWARD S. JOHNSON

Assistant Professors: OWEN MCCONNELL, WILLIAM H. WYNN, KENNETH LESSLER, KURT SCHLESINGER,[7] JOHN GORMAN, JAY BIRNBRAUER, JOHN BURCHARD, MARILYN ERICKSON, RUTH FALK, RONALD FOX, DOUGLAS SCHOENINGER, PAUL B. FIDDLEMAN, CHESTER A. INSKO, FERNANDO COLON, ROBERT B. DUKE, STUART VALINS, ERIC SCHOPLER, VINCENT LOLORDO, DAVID ECKERMAN, ROBERT MCCALL, CLYDE CREGO

Research Assistant Professor: BOBBY TATE

Visiting Professor: ARNOLD KRUGMAN

Visiting Assistant Professor: MURRAY AITKIN

Visiting Lecturers: LISE WALLACH,[7] RICHARD SANDERS,[8] LLOYD STIRES

Lecturer: EMILY WILLERMAN

Instructors: RALPH ZIEFF, RUTH JACKSON, ROGER WELLS

L. L. Thurstone Distinguished Fellow: DAVIS HOWES

Post-Doctoral Fellow: STANLEY MULAIK

Part-time Instructors: RICHARD ARNOLD, HENRI BARIK, KENT BUTZINE, ROLF CARLSON, WILLIAM CLAIBORNE, CHARLES COOPER, ROBERT DICK, CEBRUN GAUSTAD, DAVID JACOBOWITZ, DANIEL LANGMEYER, JERRY MARTIN, JOHN MAY, DAVID MCGOURTY, MICKAY MILLER, AUGUSTUS NAPIER, WAYNE OLIVER, KARL OSTROM, BRYAN PFINGST, WILLIAM REDD, KAREN REINFURT, JAMES ROBINSON, JUDITH SARAVAY,

1. Alumni Distinguished Professor of Psychology.
2. Kenan Professor, Emeritus.
3. Kenan Professor.
4. Resigned June 30, 1966.
5. Absent on leave, 1966-1967.
6. Resigned September 30, 1966.
7. Resigned August 31, 1966.
8. Resigned May 31, 1966.

RONALD SUITER, JOHN VACHER, WILLIAM VAN WEY, RUSSELL WALLS, LANELLE WISE

Research Assistants: RICHARD BLASKO, LARRY BYRD, BOBBY CALDER, ROBERT COLMAN, REID CREECH, JAMES FERGUSON, LAWRENCE GORDON, CHARLES GRUDER, JAMES KAHAN, ROBERT MCCLURE, STEPHEN REISMAN, VAIDA THOMPSON, EDWARD YOUNGS

Teaching Fellow: PAUL POTTINGER

The emphasis in undergraduate study of psychology is not on specialization within the field. The program for majors includes three required courses, but beyond them allows latitude for the varying directions of interest that the student may express. There are some courses which are particularly recommended to the major if he anticipates pursuing graduate training in psychology. Students intending to major in psychology are advised to include courses in biology, physics, mathematics, sociology and anthropolgy in their studies.

The courses in the Department available to the undergraduate student are listed below in several groups. Each major is required to take a three course sequence in Group A and at least five other courses in the Department. Either Psychology 20 or Psychology 26 should be taken in the second semester of the freshman year or in the first semester of the sophomore year. Students may not register or receive credit for both Psychology 20 and Psychology 26. It is advisable to take Group A courses as early as possible in the major program. Psychology 27 need not be taken prior to Psychology 28. In addition, the major student must select at least one course each from groups B, C, and D. The remaining courses needed to complete his major may be selected from any of the other courses in groups B, C, D, and E. Group A: Psychology 26, 27, and 28; Group B: Psychology 100, 101, 102, 104, 106, 121, 122, 171; Group C: Psychology 126, 133, 140, 146, 188; Group D: Psychology 130, 136, 148; Group E: Psychology 90, 112, 131, 141, 165, 180, 181 or other departmental offerings such as honors and original problems. It is also strongly recommended that any student intending to pursue graduate studies in psychology include Psychology 130 in his major program. Details of the student's program are planned with his adviser.

Majors in psychology with an over-all average of *B* or better are eligible for enrollment in the honors program. Application should be made through his departmental adviser before registration for the first semester of the major's senior year. In this program, a student of superior ability and industry will have an opportunity to carry out independent work in an area of his choice under the guidance of some departmental staff member. Interested and qualified students should make inquiry of their departmental advisers.

For graduate students the emphasis is not on specific courses as such but rather on different areas of competence, in which progress is assessed by examinations. In consultation with his adviser, the student plans a program of study and research adapted to his needs and in-

terests. More detailed information is given in mimeographed materials available upon request from the Department of Psychology.

Practicum experience in advanced psychometric techniques is available to qualified students in connection with research projects of the Psychometric Laboratory.

Personnel and material facilities for graduate level professional training in clinical psychology are available both on and off the campus. Practicum experience in diagnostic and therapeutic procedures is available to qualified students through the North Carolina Memorial Hospital. The Department participates in the clinical training programs sponsored by the Veterans Administration and the United States Public Health Service.

The student is referred also to courses in educational psychology, statistics, neurology, physiology, sociology and anthropology listed by other departments of the University.

Some courses will be given in alternate years or irregularly as demand warrants.

The advised prerequisites for each course are provided for the general guidance of the student in consultation with his adviser. In some cases, they may believe that the student needs a particular course and could succeed in it without having had the specified prerequisites. If so, the student should consult with the instructor of the course, who may waive a prerequisite.

Courses for Undergraduates

20 INTRODUCTION TO PSYCHOLOGY (3). No prerequisite. Open to 2nd semester freshmen and above. An overview of the facts and theories of conditioning, development, measurement, personality and social factors in behavioral science. Students typically participate in ongoing psychological research and may be required to take one or more psychological tests. *Three lecture hours a week, fall and spring.* Staff.

NOTE: Psychology 20 does not carry Natural Science credit. No student may register or receive credit for both Psychology 20 and Psychology 26.

26 GENERAL PSYCHOLOGY (4). No prerequisite. Open to second semester freshmen and above. A survey of psychology as a behavioral science. Lecture is supplemented by laboratory work and demonstrations. Students typically participate in ongoing research and may be required to take one or more psychological tests. *Three lecture and two laboratory hours each week, fall and spring.* Staff.

NOTE: No student may register for the Laboratory without the Lectures.

27 INTRODUCTION TO EXPERIMENTAL PSYCHOLOGY (4). Prerequisite, Psychology 26 or an equivalent course in general psychology. Areas include sensory processes, perception, emotion, conditioning and learning. Collection and quantitative treatment of behavioral data. *Three lecture and three laboratory hours a week, fall and spring.* Long, Sanders.

28 INTRODUCTION TO PERSONALITY (4). Prerequisite, Psychology 26 or an equivalent course in general psychology. A study of the normal human

individual as an organic whole. Hereditary and environmental sources of individual differences in personality dynamics. *Three lectures and one hour of discussion a week, fall and spring.* Baughman, McCurdy, Gorman, LaCrosse.

NOTE: This course will not meet the General College laboratory science requirement.

90 SENIOR SEMINAR IN PSYCHOLOGY (3). Prerequisite, faculty recommendation. Limited to senior majors in psychology. A comprehensive survey of current theoretical, methodological, and professional problems in psychology. *Four seminar hours a week, spring.* Several staff members present for each session.

99ab HONORS IN PSYCHOLOGY (3). Prerequisite, enrollment in the honors program. Reading and research problems. (See description above.) To be taken twice by each honors student and may be counted towards the major at the student's option. 99a, *fall;* 99b, *spring.* Staff.

NOTE: Psychology 26 or the equivalent is prerequisite to all courses numbered above 100.

Courses for Graduates and Advanced Undergraduates

100 THINKING AND COGNITION (3). Prerequisite, Psychology 27 or permission of the instructor. A course considering problems in concept formation, problem-solving, and thinking. Emphasis will be on an examination of the experimental literature with attention to recent developments in information processing models and computer simulation. *Two lecture and two laboratory hours a week, fall.* Fillenbaum, Johnson.

101 CONDITIONING AND LEARNING (3). Prerequisite, Psychology 27 or permission of the instructor. A comprehensive study of the methods and findings of classical conditioning and instrumental training experiments. Standard and original experiments will be made in the laboratory. *Two lecture and three laboratory hours a week, fall.* Eckerman, LoLordo, Waller.

102 BIOLOGICAL FOUNDATIONS OF BEHAVIOR (3). Prerequisite, Psychology 27 or permission of the instructor. Ethological, genetic, and physiological variables will be studied in relation to their behavioral effects. Laboratory and field experiments will be conducted. *Two lecture and three laboratory hours a week, spring.* King, Waller.

104 ADVANCED GENERAL PSYCHOLOGY (3). Prerequisite, Psychology 26. A survey and refresher course offering a critical and detailed study of some of the major modern experimental findings and methods in contemporary experimental psychology. (1963-1964 and alternate years.) *Fall.* Daniel.

106 PHYSIOLOGICAL PSYCHOLOGY (3). Prerequisites, Psychology 26 and 27 or special permission of the instructor. End organ, neurological, and muscle action patterns and their role in behavior. Related findings on endocrine, hormonal, and metabolic processes. *Two lecture and two laboratory hours a week, fall.* King.

112 HISTORICAL TRENDS IN PSYCHOLOGY (3). Prerequisites, Psychology 26, and 27 or 28 (40), or permission of the instructor. Limited to senior majors or to graduate students in psychology; others by permission of the instructor. Over-view of the origins of psychological concepts, movements, and fields of study. *Fall and spring as announced.* McCurdy.

121 SENSATION AND PERCEPTION (3). Prerequisites, Psychology 26, 27, or permission of the instructor. Vision, audition, skin senses, chemical senses, attention, reaction time, psychophysical methods, and emotions. *Two lecture and three laboratory hours a week, fall.* Fillenbaum.

122 HUMAN LEARNING (3). Prerequisites, Psychology 26, 27. Motivation, conditioning, learning, and language. Relation of findings to educational procedures. *Two lecture and three laboratory hours a week, spring.* Long.

126 CHILD DEVELOPMENT (3). Prerequisites, Psychology 26 and 28 (40). Development of the normal child, with particular attention to social relations. Biological and cultural factors are considered. *Fall and spring.* Robinson, Gorman, McConnell, Birnbrauer, Krugman, Rheingold.

130 ELEMENTARY PSYCHOLOGICAL STATISTICS (3). Prerequisites, Psychology 26, 27, or permission of the instructor. Principles and method of descriptive statistics and introduction to statistical inference, with applications to psychological problems. *Two lecture and two laboratory hours a week, fall and spring.* Insko.

131 INTERMEDIATE PSYCHOLOGICAL STATISTICS (3). Prerequisites, Psychology 26, 27, 130. Principles of statistical inference, including applications of binomial, normal, *t*, *X*, and *F* distributions, and treatment of correlation regression problems. *Fall.* Staff.

133 INTRODUCTION TO SOCIAL PSYCHOLOGY (3). Prerequisites, Psychology 26, 28 (40); Psychology 28 highly desirable. Permission of the instructor in special cases. Examination of social systems from various points of view, stressing interpersonal relations and representing methods of observation, experiment, and analysis. *Fall and spring.* Thibaut, Schopler, Insko, Valins.

134 COLLECTIVE BEHAVIOR (Sociology 134) (3). Prerequisite, Sociology 51. A study of the elementary forms of social organization. Forces external to the person that operate in social movements, crowds, revolution, fashion, and similar phenomena are emphasized. Special attention paid to the analysis of social movements. *Fall and spring.* Pope.

136 MEASUREMENT AND DATA ANALYSIS (3). Prerequisite, Psychology 130 or equivalent. Principles of psychological scaling, emphasizing constraints on prediction of measurement models employed; introduction to multidimensional scaling. *Three lecture hours a week, spring.* Jones.

140 PERSONALITY (3). Prerequisites, Psychology 26, 28 (40). Development and modern application of the concept of personality as a more or less self-determining system of beliefs, values, and behavior tendencies. *Fall and spring.* Welsh, Galinsky, Van de Castle.

141 INTRODUCTION TO CLINICAL PSYCHOLOGY (3). Prerequisites, Psychology 26, 28 (40), and two 100-level courses. A survey of the types of problems, methods of evaluation, and treatment techniques encountered in clinical psychology. *Spring.* Galinsky.

146 BEHAVIOR DISORDERS (3). Prerequisites, Psychology 26, 28 (40). Major forms of behavioral pathology of children and adults, with an emphasis on understanding, treatment, and prevention of these personality disorders. *Fall and spring.* Dahlstrom, Burchard, Krugman, Galinsky.

148 TESTS AND MEASUREMENTS (3). Prerequisites, Psychology 26, 27; 130 also desirable. Survey of principal types of psychological measuring instruments. *Spring.* Welsh.

151 ORIGINAL PROBLEMS (3). Prerequisites, Psychology 26, 27, 28 (40), and permission of the instructor. *Six laboratory hours a week, fall and spring.* Staff.

165 COMMUNICATION AND OPINION (Journalism 165) (Sociology 165) (3). Prerequisites, any two of the following: Psychology 26, Political Science 41, Sociology 51. Theories of communication; persuasion and opinion formulation; propaganda and pressure groups; the mass media and public opinion; voting behavior. *Fall and spring.* Adams, Danielson.

171 MODERN BEHAVIOR THEORY (3). Prerequisites, Psychology 26, and 27, or permission of the instructor. A critical survey of recent theoretical developments in learning and behavior theory. *Spring.* Daniel.

180 INTRODUCTION TO THE STUDY OF EXCEPTIONAL CHILDREN (Education 180) (3). *Fall and spring.* Harshman.

188 SMALL GROUPS (3). Prerequisite, Psychology (Sociology) 133 or permission of the instructor. Intensive survey of research and theory on behavior in small groups combined with appropriate experience in studying various structured groups. *Fall.* Schopler.

Courses for Graduates

200 EXPERIMENTAL METHODS: PERCEPTION AND COGNITION (3). Graduate students only. Principal areas of experimentation: psychophysics, sensation, perception, cognition. *Three lecture hours a week, spring.* Fillenbaum, Johnson, Long, McCurdy.

201 EXPERIMENTAL METHODS: CONDITIONING AND LEARNING (3). Limited to graduate students in psychology. Principal problems of experimentation; classical conditioning, operant conditioning, verbal behavior. *Three lecture hours a week, fall.* Eckerman, LoLordo, Long, Waller.

202 EXPERIMENTAL METHODS: BIOLOGICAL FOUNDATIONS (3). Prerequisite, Psychology 201. Principal areas of experimentation: neuroanatomy, neurophysiology, hormonal and biochemical factors. *Three hours a week, spring.* King. Obrist.

203 EXPERIMENTAL METHODS OF PERSONALITY STUDY (3). Prerequisite, Psychology 104, 140, or 227. Experimental methods applied to complex behavioral phenomena. Analysis of research studies on aggression, anxiety, and defense mechanisms. *Two lecture and two laboratory hours a week, spring.* Dahlstrom.

204 ADVANCED BIOLOGICAL PSYCHOLOGY: CENTRAL NERVOUS SYSTEM (3). Prerequisites, Psychology 106 or equivalent, or permission of the instructor. Correlates of behavior and experience with central nervous system function. Learning, memory, and sensory processes are usually included. May include topics from neuroanatomy and neurophysiology. *Three lecture hours a week, on demand.* King.

205 ADVANCED BIOLOGICAL PSYCHOLOGY: AUTONOMIC NERVOUS SYSTEM (3). Prerequisites, Psychology 106 and/or 202, or permission of the instructor. Autonomic nervous system bases of emotion, motivation, and learning. *Two lecture and two laboratory hours a week, fall.* Obrist.

206 ADVANCED DEVELOPMENTAL PSYCHOLOGY (3). Prerequisites, Psychology 126 or equivalent. Discussion and critical evaluation of the theoretical foundations of modern developmental psychology. *Fall.* Robinson.

212 CONTEMPORARY PSYCHOLOGICAL TRENDS (3). Readings in the original writings of structuralism, behaviorism, Gestalt, psychoanalysis, and other recent movements. *Spring.* Fillenbaum, Wallach.

216 PSYCHOLOGICAL EVALUATION OF CHILDREN (3). Prerequisites, Psychology 126 and 206 or equivalent. Discussion and evaluation of psychological tests for children. Practice in administering and interpreting assessment procedures with infants, preschool and elementary school children. *Fall.* Rheingold, Robinson.

220 RESEARCH METHODS IN BIOLOGICAL PSYCHOLOGY (3). Prerequisites, Psychology 106 or equivalent, or permission of the instructor. Standard techniques useful in biological psychology will be demonstrated and practiced. Operating techniques, recording techniques, and techniques for the analysis of biological data will usually be included. *One lecture and four laboratory hours a week, fall.* King, Obrist.

222 EXPERIMENTAL ANALYSIS OF BEHAVIOR (3). Prerequisite, Psychology 201 or permission of the instructor. Applications of operant conditioning procedures to the analysis of complex behavior in man and animals. Original experiments will be performed. *One lecture and six laboratory hours a week, fall.* Long, Waller.

226 EXPERIMENTAL CHILD PSYCHOLOGY (3). Prerequisites, Psychology 126 and permission of the instructor. Survey of research contributions to the field of development, by areas and by age periods. Research methodology emphasized. *Two lecture and two laboratory hours a week, fall or spring as announced.* Robinson, Rheingold.

227 THEORIES OF PERSONALITY (Sociology 227) (3). Prerequisite, Psychology 140 or equivalent. Summary of major contemporary theories of personality, with some consideration of relevant empirical research. *Fall.* Welsh.

228 ADVANCED SOCIAL PSYCHOLOGY (Sociology 228) (3). Prerequisites, permission of the instructor and Psychology (Sociology) 133 or equivalent, 188. Summary of main theoretical and substantive trends in contemporary social psychology with emphasis on the role of small group theory and research. *Spring.* Thibaut.

230 ADVANCED PSYCHOLOGICAL STATISTICS (3). Prerequisite, Psychology 131 or equivalent. Includes such topics as statistical estimation and hypothesis testing, as well as psychological scaling and use of quantitative models in design and analysis of experiments. *Two lecture and two laboratory hours a week, spring.* Jones.

231 PSYCHOPHYSICS (3). Prerequisite, Psychology 130 or equivalent. Principles of psychophysics, including methods and reproduction, limits, paired comparisons, equal-appearing intervals, etc. (1963-1964 and alternate years.) *Two lecture and two laboratory hours a week, fall.* Jones.

232 TEST THEORY AND ANALYSIS (3). Prerequisite, Psychology 130; 132 and 230 desirable. Principles of mental measurement; theoretical bases of analyzing tests; selection and weighting of composite tests. *Two lecture and two laboratory hours a week, spring.*

233 METHODS OF SOCIAL PSYCHOLOGY (Sociology 233) (3). Prerequisite, Psychology 133. Methods of investigation in social psychology with application to the social sciences. Survey methodology with particular emphasis on opinion polling. *Fall or spring as announced.* Insko.

234 MATHEMATICAL PSYCHOLOGY (3). Prerequisite, permission of the instructor. Illustrations of psychology as a quantitative rational science. Topics from a wide range; vision, nervous system, learning, war psychology, attention, fatigue, etc. *Offered as demand warrants.* Rapaport.

235 MEASUREMENT OF ATTITUDES (Sociology 235) (3). Prerequisites, Psychology 130 or equivalent. Major approaches to opinion and attitude measurement, with special reference to the advantages and limitations of each. *Spring.* Staff.

236 PSYCHOLOGICAL ASPECTS OF FACTOR ANALYSIS (Statistics 664) (3). Prerequisites, Psychology 130 and 131 or 230, or Statistics 512 and 513, or equivalent, plus a course in analytic geometry. Includes two-factor theory, centroid analysis, communalities, simple structure, rotational methods, second-order factors, new developments. (1964-1965 and alternate years.) *Two lecture and two laboratory hours a week, fall.* Jones.

237 BEHAVIORAL APPLICATIONS OF MULTIVARIATE ANALYSIS (3). Prerequisite, Psychology 236 or Statistics 661 or 662. Applications of multivariate analysis to problems in behavioral research, with emphasis on multivariate analysis of variance. (1964-1965 and alternate years.) *Spring.*

240 241 INTRODUCTION TO CLINICAL ASSESSMENT (3). Prerequisite, 1st year Graduate status in Clinical Psychology. Lecture and discussion on the nature and theory of psychological assessment. Training in administration, scoring and interpretation of such basic techniques as: WAIS-WISC, Rorschach, TAT, and MMPI. *Two lecture and two laboratory hours a week, fall and spring.* Dahlstrom.

242 243 INTRODUCTION TO PSYCHOTHERAPY (3). Prerequisite, 1st year Graduate status in Clinical Psychology. Survey of basic concepts and processes relevant to individual psychotherapy with adults. The three representative approaches to psychotherapy that will be considered are: psychoanalytic, client-centered, and behavioral. Tapes, films, and other materials will be used as adjuncts to instruction. *Three lecture hours a week, fall and spring.* Strupp.

244 245 ADVANCED PSYCHOPATHOLOGY (3). Prerequisite, 1st year Graduate status in Clinical Psychology. The major forms of psychopathology are examined within a developmental framework. When possible, patient contracts are arranged to coordinate with the form of psychopathology under consideration, permitting the student to view psychopathology in the context of direct observation and interviews. *Two lecture and two laboratory hours a week, fall and spring.* Galinsky.

250 251 ADVANCED CLINICAL ASSESSMENT (3). Prerequisite, Psychology 240, 241. Consideration of how various forms of data can be utilized in understanding the structure and dynamics of individual personalities. Special problems (e.g., differential diagnosis, brain damage, etc.) are considered. Particular attention is given to personality theory as it relates to the assessment task. *Two lecture and two laboratory hours a week, fall and spring.* Lessler.

252 253 ADVANCED PSYCHOTHERAPY (3). Prerequisite, Psychology 242, 243. This unit is divided into two parts. In the first part, tapes, films, typescripts and live observations are used to give didactic instruction in child, group and family therapy, crisis intervention and other special techniques. The second part is a continuous case conference in which students present cases that they are carrying in practicum. *Three hours a week, fall and spring.* Fox.

254 255 CLINICAL PRACTICUM (3). Prerequisite, 2nd year Graduate status in Clinical Psychology. Supervised experience in psychological assessment and psychotherapy. *Six-eight laboratory hours a week, fall and spring.* Baughman.

256 CLINICAL RESEARCH METHODS (3). Prerequisite, 2nd year Graduate
257 status in Clinical Psychology. Analysis of clinical and personality research as to their contribution to knowledge, their limitations, possibilities for their improvement, further research they suggest, etc. Preparation of individual research proposals for class presentation and critical evaluation. *Three hours a week, fall and spring.* Schoeninger.

264 ADVANCED CLINICAL PRACTICUM (3). Prerequisites, Psychology 254,
265 255. Supervised clinical work in an area of particular interest to the student. Clinical activity is coordinated with exploration of psychological literature relevant to the topic. *Six-eight laboratory hours a week, fall and spring.* Galinsky.

300 SPECIAL READINGS IN PSYCHOLOGY (3). Prerequisite, permission of the instructor. Intended for advanced graduate students. *Either semester.* Staff.

301 SEMINAR IN THE EXPERIMENTAL ANALYSIS OF BEHAVIOR (3). Limited to graduate students in psychology. Selected advanced topics depending on the interests of the instructor and the students. *Three to six hours a week, fall and spring.* Eckerman, LoLordo, Long, Waller.

302 SEMINAR IN THE BIOLOGICAL FOUNDATIONS OF PSYCHOLOGY (3). Limited to graduate students in psychology. Selected advanced topics depending on the interests of the instructor and students. *Three to six hours a week, fall and spring.* King, Obrist.

303 SEMINAR IN EXPERIMENTAL RESEARCH (3). Limited to graduate students in psychology. Selected advanced topics depending on the interests of the instructor and students. *Three to six hours a week, fall and spring.* Fillenbaum, Johnson.

304 SEMINAR IN GENERAL PSYCHOLOGY (3). Limited to graduate students in psychology. Selected advanced topics depending on the interests of the instructor and students. *Three to six hours a week, fall and spring.* Staff.

306 SEMINAR IN DEVELOPMENTAL PSYCHOLOGY (3). Prerequisites, Psychology 206 or 226 or equivalent. Intensive study of selected topics in developmental psychology. *Either semester, as announced.* Rheingold, Robinson.

308 SEMINAR IN BEHAVIORAL GENETICS (3). Prerequisite, permission of the instructor. Subject matter will vary from year to year. Intensive consideration will be given to a few research areas which will be taken from the general area of animal and human behavioral genetics. *Spring.* Schlesinger.

316 SEMINAR IN EXPERIMENTAL CHILD PSYCHOLOGY (3). Prerequisites, Psychology 206 and 222 or equivalent. Topics vary from semester to semester; consideration of specific contemporary research issues in developmental psychology. *Either semester, as announced.* Rheingold, Robinson.

325 SEMINAR IN THEORETICAL-EXPERIMENTAL PSYCHOLOGY (1, 2, or 3). The topics will vary with the interests of students and staff members. *Either semester, as announced.* Staff.

326 SEMINAR IN CLINICAL PSYCHOLOGY (1, 2, or 3). Systematic surveys of research in special techniques or theories of clinical psychology. *Either semester, as announced.* Staff.

327 SEMINAR IN ABNORMAL PSYCHOLOGY (1, 2, 3). Systematic reviews of theoeretical and experimental studies in psychopathology, animal neuroses, and related topics. *Either semester, as announced.* Staff.

328 SEMINAR IN SOCIAL PSYCHOLOGY (Sociology 328) (3). Prerequisite, Psychology (Sociology) 133 or equivalent. *Time to be arranged.* Staff.

330 SEMINAR IN QUANTITATIVE PSYCHOLOGY (1, 2, or 3). A seminar either on a particular topic to be announced or on a variety of developments in quantitative psychology. *Either semester, as announced.* Staff.

336 SEMINAR IN COGNITIVE PSYCHOLOGY (3). Prerequisite, permission of instructor. Discussion and critical evaluation of various theories of thinking; theories of concept formation, problem solving, and reasoning. *Either semester, as announced.* Fillenbaum, Robinson.

340 SEMINAR IN MEDIA ANALYSIS (Journalism 340) (Sociology 340) (3). Prerequisites, graduate standing in journalism, psychology, sociology, or anthropology, and permission of the instructor. Students will participate in design and execution of a media research project. *Spring.* Danielson.

341 ADVANCED RESEARCH (3). Supervised research for the master's thesis or doctoral dissertation. *Six laboratory hours a week, fall or spring.* Staff.

356 357 ADVANCED CLINICAL RESEARCH (3). Prerequisite, permission of the instructor. Supervised research for the doctoral dissertation of Clinical Psychology Graduate students. *Six laboratory hours a week, fall and spring.* Staff.

393 MASTER'S THESIS (3). *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION (3). *Fall and spring.* Staff.

400 GENERAL REGISTRATION (0).

SCHOOL OF PUBLIC HEALTH

Professors: WILLIAM FRED MAYES, *Dean,* HERMAN GLENN BAITY,[1] GEORGE ERIC BARNES, FAUSTENA BLAISDELL, MARGARET BLEE,[1] RALPH HENRY BOATMAN, JR., ALBERT HUGHES BRYAN, CHARLES METZ CAMERON, JR.,[2] JOHN CHARLES CASSEL, EMIL THEODORE CHANLETT, SIDNEY SHAW CHIPMAN, ROBERT ERVIN COKER, JR.,[3] HERBERT ARON DAVID, MARGARET BAGGETT DOLAN, MOYE WICKS FREYMANN, JOHN THOMAS FULTON, BERNARD GEORGE GREENBERG, RUTH WARWICK HAY,[1] MILTON SYDNEY HEATH, JR., MAYNARD MICHAEL HUFSCHMIDT, ROY RAYMOND KUEBLER, JR., JAMES CHRISTIAN LAMB III, JOHN EDGAR LARSH, JR., DOROTHEA CROSS LEIGHTON, EDWARD GRAFTON MCGAVRAN,[4] LUCY SHIELDS MORGAN,[5] HOWARD THOMAS ODUM, DANIEL ALEXANDER OKUN,[6] HARRY SMITH, JR., GORDON T. STEWART, EUNICE NICKERSON TYLER,[7] HERMAN ALFRED TYROLER, NEWTON UNDERWOOD, ROBERT BRIGG WATSON, STANLEY JOHN WEIDENKOPF, CHARLES MANUEL WEISS, ROBERT NEAL WILSON, JOHN JOSEPH WRIGHT

Adjunct Professors: RAY EVERETT BROWN, RICHARD HEALD LEACH, FORREST E. LINDER, WILLIAM J. MOORE, FRANZ WESTON ROSA, MAURICE F. SEAY

Research Professor: WILLIAM WALTER CORT[8]

Visiting Research Professor: C. HORACE HAMILTON

Visiting Professors: FRANK E. LAW, BETTY PHELPS MATHEWS

Associate Professors: MARIO C. BATTIGELLI, REBECCA AGNES BROACH, JAMES CLEMENT BROWN, ELMER F. CHAFFEE, NORA FRANCES CLINE, ELIZABETH JACKSON COULTER,

1. Professor, Emeritus.
2. Absent on leave, 1966-1967.
3. Died July 31, 1966.
4. Dean, Emeritus, absent on leave, 1966-1967.
5. Retired June 30, 1966.
6. Kenan Leave, July 1, 1966-June 30, 1967.
7. Retired June 30, 1966.
8. Research Professor, Emeritus.

THOMAS GEORGE DONNELLY, REGINA CECYLIA ELANDT-JOHNSON, ROBERT CLAUDE ELSTON, JOHN PATON FILLEY, EDWARD LESTER FINCHER, WILLIAM SHOEMAKER FLASH, DAVID ALLISON FRASER, JOHN T. GENTRY, HILTON THOMAS GOULSON, GERALDINE GOURLEY, JAMES ENNIS GRIZZLE, ANN CATON HANSEN, JAMES RICHARD HENDRICKS, ELIZABETH STEPHENS HOLLEY,[9] WILLIAM G. HOLLISTER, CARL BAKER HOLMES, JOHN T. HUGHES, JAROSLAVE FABIAN HULKA, CARLYLE DAVID JENKINS, J. DONALD JOHNSON, JR., ROSEMARY MAY KENT, EDWARD J. KUENZLER, MARIE J. MCINTYRE, ELIZABETH LOVELL MCMAHAN, ELTA MAE MAST, VIRGINIA MARGARET NELSON, CHARLES R. O'MELIA, ABDEL R. OMRAN, RALPH CLINTON PATRICK, JR.,[10] WILLIAM MERRILL PECK,[11] ANN DEHUFF PETERS, DANA EDWARD ANTHONY QUADE, LLOYD WESLEY REGIER, LYMAN ALONZO RIPPERTON, JABBAR KHAN SHERWANI, MORRIS A. SHIFFMAN, EARL SIEGEL, CECIL SLOME, E. BARBARA STOCKING, J. RICHARD UDRY, HIAWATHA BROWN WALKER, NORMAN FRED WEATHERLY, HENRY BRADLEY WELLS

Adjunct Associate Professors: LIBERO AJELLO, JAMES H. BOYERS, MARION M. BROOKE, WILLIAM BAILEY CHERRY, NETTIE L. DAY, WALTER R. DOWDLE, WILLIAM HOWELL EWING, ANDREW R. FODOR, LUCILLE K. GEORG, SIEGFRIED HEYDEN, MARTIN P. HINES, ELIZABETH S. HOLLEY, LEO KAUFMAN, NORBET L. KELLY, JR., JACOB KOOMEN, GEORGE PAUL KUBICA, RODDEY M. LIGON, JR., LYNN GRAY MADDRY, MAX D. MOODY, JOHN W. R. NORTON, LEO PINE, ROSLYN Q. ROBINSON, JOSEPH H. SCHUBERT, CHARLES C. SHEPARD, W. DANIEL SUDIA, JAMES D. THAYER, KENNETH W. WALLS, WILLIAM L. WILSON

Visiting Associate Professors: HILLIARD D. ESTES, KUNO RUBEN GABRIEL, O. DAVID GARVIN, CURTIS G. HAMES, K. V. RANGANATHAN, PRANAB KUMAR SEN, DAVID HOWELL STODDARD, TEODORA V. TIGLAO, ROBERT F. YOUNG

Assistant Professors: JAMES RALPH ABERNATHY, CHARLES BURLE ARNOLD, CAROLINE BECKER, WILLIAM THEODORE HERZOG, LYDIA SAY HOLLEY, ROBERT R. HUNTLEY, ALBERT L. JOHNSON, BERTON H. KAPLAN, PETER ANTHONY LACHENBRUCH, FRANCES SIMMONS MCCONNELL, ROBERT A. MAH, MARGARET LEE MOORE, NAOMI MINNER MORRIS, JANICE RUTH WESTABY, DONALD G. WILLHOIT

Adjunct Assistant Professor: HOWARD C. BARNHILL

Research Assistant Professor: DONALD BRETT THOMAS

Visiting Assistant Professors: CHARLES R. BERRY, SAGAR C. JAIN, ROLF P. LYNTON

Instructors: RICHARD F. COLE, JOAN CLAIRE CORNONI, LEONARD H. DAWSON, JAY HOWARD GLASSER, FRANCES OSBORNE GUST, CHARLES L. HARPER, ELLEN B. KAPLAN, NANCY W. LASZLO, DONALD T. LAURIA, WILMA RUTH LEWIS, DORIS WATFORD LISTER, MARIE LOUISE LOWE, FREDERICK EUGENE MCJUNKIN, BEATRICE BELL MONGEAU, BERTHA L. MOORE, A. W. VOORS, JULIA DAY WATKINS, KATIE RICHARD YELVERTON

Adjunct Instructor: ANNE M. PARRISH

Research Associates: AMELIE VIRGINIA MARIE ALDIGE, DOUGLAS A. ALEXANDER, DAVID M. ALLEN, EVELYN LENORE ANDERSON, CAROL P. ARMSTRONG, HARRIET HYLTON BARR, KARL E. BAUMAN, JAMES D. BECK, CHARLES L. CHASE, GEORGE CHRISTOFFERSEN, GEORGE LINDSEY CLEVELAND, JR., JAMES WASHINGTON LEVERETT COLE, ELIZABETH COOK, SARAH CRANFORD, HARRISON MAX DRAKE, SUE GARRETT FICKER, RALPH EDWARD FOLSOM, CHARLES HARRY GOLDSMITH, ROBERT H. GOURLEY, CARL G. HAYES, RUTHANN FOX HINES, WALLACE L. HUFF, MARK ALLYN JOHNSON, PRAKASH CHANDRA JOSHI, JORETTA K. KLEPFER, GARY KOCH, MARVIN I. LEVY, MARGARET S. LOMAX, JO EADDY MAREADY, BRADFORD MILLER, E. J. MILLER, HARRIETT PLUMMER MILLER, DORIS JACQUELINE MOORE, LILLY OEY, NANCY R. PAGANO, MARCIA B. PENDERGRAPH, LINDA S. RIDGWAY, BLAIR M. SLOAN, PHILLIP S. SPIERS, VIRGINIA M. TOLLIVER, ROBERT W. TUTHILL, GAIL ANN VAN WIE, FAY C. WEBER, ALICE S. WELLFORD, EMILY G. WILLERMAN, RUTH PETTY WRIGHT, STEPHEN JEROME ZYZANSKI

9. Resigned January 31, 1966.
10. Absent on leave, 1966-1967.
11. Assigned to Malawi, Africa.

Courses for Graduates and Advanced Undergraduates

School of Public Health

100 ECOLOGY OF HUMAN HEALTH (3). Prerequisite, permission of course instructor. A consideration of biological, environmental and behavioral premises needed for an understanding of health-related programs. *Three lecture hours a week, fall.* Leighton, Shiffman, Stewart.

Department of Biostatistics (BIOS)

100 PUBLIC HEALTH STATISTICS (3). An introduction to fundamental procedures in the collection, summarization, presentation, and analysis of public health data. *Two lecture and two laboratory hours a week, fall.* Greenberg, Kuebler, Smith.

101 MANAGEMENT OF PUBLIC HEALTH DATA (2). This course is intended for students who take more extensive courses in statistical inference than Bios 100. *One lecture and two laboratory hours a week, fall.* Greenberg, Kuebler, Smith.

110 PRINCIPLES OF STATISTICAL INFERENCE (3). *Three lecture hours a week, fall and spring.* Lachenbruch, Grizzle.

122 INTRODUCTION TO COMPUTER PROGRAMMING IN THE HEALTH SCIENCES (2). Prerequisite, Bios 110 or equivalent or permission of the instructor. Organization of statistical programs and data for the Univac 1105. *Two lecture hours a week, fall and spring.* Donnelly, Lachenbruch.

130 PROBABILITY AND STATISTICS (4). Prerequisite, integral calculus. *Four lecture hours a week, fall.* Kuebler.

140
141 PROBLEMS IN BIOSTATISTICS (1 or more). Admission is by permission of the instructor. *Two or more hours a week, fall, spring, and summer.* Staff.
142

150 STATISTICAL ANALYSIS I (Statistics 101) (4). Corequisite, integral calculus. Fundamentals of the analysis and interpretation of statistical data. *Three lecture and two laboratory hours a week, fall.* Quade.

151 STATISTICAL ANALYSIS II (Statistics 102) (3). Prerequisite, Bios 150. Continuation of Bios 150. *Two lecture and two laboratory hours a week, spring.* Quade.

200 FIELD OBSERVATION IN NATIONAL STATISTICS (0). Field fee, $100. *Spring.* Greenberg; agency counselors.

220 LIFE TABLES AND DEMOGRAPHY (Sociology 197) (3). Prerequisite, Bios 100 or equivalent. Application of life table techniques to survivorship in biologic populations. *Two lecture and two laboratory hours a week, fall and spring.* Coulter, Abernathy.

221 THE ROLE OF HEALTH STATISTICS IN ADMINISTRATION (2). Prerequisite, Bios 100. *Two lecture hours a week, spring.* Greenberg.

222 TECHNIQUES OF POPULATION RESEARCH (3). *Three lecture hours a week, spring.* Wells.

223 STATISTICAL METHODS IN EPIDEMIOLOGY (3). Prerequisites, Bios 100 and Epid 160, or equivalents. *Two lecture and two laboratory hours a week, spring.* Greenberg.

224 SAMPLE SURVEY THEORY (Statistics 198) (3). Prerequisite, Bios 150 or Statistics 134. Sampling from finite populations. *Three lecture hours a week, spring.* Elandt-Johnson.

225 STATISTICAL METHODS IN HUMAN GENETICS (Genetics 225) (3). Prerequisite, Bios 130 or permission of the instructor. *Three lecture hours a week, spring.* (1967 and alternate years.) Elston.

227 STATISTICAL METHODS IN BIOASSAY (3). Prerequisite, Bios 151 or permission of the instructor. Statistical methods used for the estimation of of the relative potency of biologically active substances. (1967 and alternate years.) *Three lecture hours a week, fall.* Grizzle.

228 INTRODUCTION TO NONPARAMETRIC STATISTICS (Statistics 171) (3). Prerequisite, Bios 151 (Statistics 102) and basic courses in statistical theory. *Three lecture hours a week, fall.* David.

300 FIELD TRAINING IN PUBLIC HEALTH STATISTICS (8). Open only to students majoring in biostatistics. Field fee, $300. *Summer.* Greenberg, field counselors.

310 STATISTICAL CONSULTING IN THE HEALTH SCIENCES (2 or
311 more). Prerequisites, a minimum of one year of graduate work in statistics,
312 and at least 12 semester hours in public health or preclinical medical science. *Four or more laboratory hours a week, fall, spring, and summer.* Staff.

321 RESEARCH IN BIOSTATISTICS (2 or more). Individual arrangements
322 may be made by the advanced student to spend part or all of his time in
323 supervised investigation of selected problems in statistics. *Four or more laboratory hours a week, fall, spring, and summer.* Staff.

393 MASTER'S THESIS (0-9). *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION (0-9). *Fall and spring.* Staff.

400 GENERAL REGISTRATION (0).

Department of Environmental Sciences and Engineering (ENVR)

100 READING IN ENVIRONMENTAL SCIENCES AND ENGINEERING (1 or more). For students outside the Department. Arranged with the faculty in each individual instance. *Two or more hours a week, fall, spring, and summer.* Staff.

101 ELEMENTS OF ENVIRONMENTAL HYGIENE (2). *One lecture and two laboratory hours a week, fall, spring, and summer.* Chanlett.

111 MAN AND HIS ENVIRONMENT (3). *Three lecture hours a week, spring and summer.* Shiffman, Chanlett.

113 PRINCIPLES OF SANITARY SCIENCES (2). Prerequisites, MATH 8, PHYS 25, and CHEM 12. *Two lecture hours a week, fall.* Chanlett.

115 APPLIED ELECTRON MICROSCOPY (3). Prerequisites, college physics and permission of instructor. The use of the electron microscope as a research tool. *Two lecture and two laboratory hours a week, spring and summer.* Fraser.

118 QUANTITATIVE STUDIES FOR ENVIRONMENTAL SCIENCES (5). Prerequisite, MATH 15. Applied mathematics from the viewpoint of the needs of those studying environmental science. *Three lecture and four laboratory hours a week, summer.* Underwood.

119 PREPARATION IN PHYSICS FOR ENVIRONMENTAL SCIENCES (5). Prerequisites, PHYS 24 and PHYS 25. Applied physics from the viewpoint of the needs of those studying environmental science. *Three lecture and four laboratory hours a week, summer.* Underwood, Willhoit.

120 READING IN ENVIRONMENTAL CHEMISTRY AND BIOLOGY (1 or more). *Two or more hours a week, fall, spring, and summer.* Staff.

121 ELEMENTS OF ENVIRONMENTAL CHEMISTRY (2). Prerequisites, one course in college chemistry, physics and mathematics. *Four lecture hours a week, first half, fall.* Johnson.

123 ANALYTICAL METHODS IN ENVIRONMENTAL CHEMISTRY AND BIOLOGY I (2). Prerequisite, general chemistry. *One lecture and two laboratory hours a week, fall.* Weiss, Johnson.

124 ANALYTICAL METHODS IN ENVIRONMENTAL AND FOOD SANITATION (3). Prerequisites, general chemistry and biology. *One lecture and four laboratory hours a week, fall.* Mah, Regier.

125 ENVIRONMENTAL CHEMISTRY (3). Prerequisites, college chemistry through organic or ENVR 121. *Three lecture hours a week, spring.* Johnson.

126 SOLS AND SURFACES (3). Prerequisite, Chemistry 180 or equivalent. The physical chemistry of interfaces. (1966 and alternate years.) *Two lecture and two laboratory hours a week, fall.* Johnson.

131 ELEMENTS OF ENVIRONMENTAL BIOLOGY (2). Prerequisite, general chemistry. *Four lecture hours a week, second half, fall.* Weiss, Mah.

133 ENVIRONMENTAL BIOLOGY (3). Prerequisites, general and organic chemistry, ENVR 131 or equivalent. *Three lecture hours a week, fall.* Mah, Weiss.

140 READING IN AIR AND INDUSTRIAL HYGIENE (1 or more). Prerequisite, permission of the instructor. *Two or more hours a week, fall, spring, and summer.* Ripperton, Fraser, Chanlett.

141 ELEMENTS OF AIR HYGIENE (2). Prerequisite, admission to graduate standing or permission of the instructor. *Three lecture and two laboratory hours a week, first half, spring.* Ripperton.

142 ELEMENTS OF INDUSTRIAL HYGIENE (2). Prerequisite, admission to graduate standing or permission of instructor. *Four lecture hours a week, second half, spring.* Fraser.

143 APPLIED PHYSIOLOGY AND TOXICOLOGY (3). Prerequisite, admission to graduate standing or permission of instructor. *Two lecture and two laboratory hours a week, fall.* Fraser, Battigelli.

150 READING IN ENVIRONMENTAL AND FOOD SANITATION (1 or more). *Two or more hours a week, fall, spring, and summer.* Staff.

151 ELEMENTS OF ENVIRONMENTAL SANITATION (3). Prerequisites, ENVR 125 and ENVR 113. *Three lecture hours a week, spring.* Chanlett.

152 ELEMENTS OF FOOD SANITATION (3). Prerequisites, ENVR 113, ENVR 125, and ENVR 151. The sanitation of food production, processing and distribution. *Two lecture and two laboratory hours a week, spring.* Regier.

154 CONTROL OF THE INSTITUTIONAL ENVIRONMENT (3). Prerequisites, ENVR 121 and 131 or equivalent and permission of the instructor. *Three lecture hours a week, spring.* Fincher.

160 READING IN RADIOLOGICAL HYGIENE (1 or more). Prerequisite, permission of the instructor. *Two or more hours a week, fall, spring, and summer.* Chanlett, Underwood, Willhoit.

161 ELEMENTS OF RADIOLOGICAL HYGIENE (2). Prerequisites, ENVR 118 and ENVR 119. *One lecture and two laboratory hours a week, spring and second summer session.* Willhoit, Underwood, Chanlett.

162 MODERN PHYSICS FOR ENVIRONMENTAL SCIENCE (3). Prerequisites, ENVR 118 and ENVR 119. Modern physics with the emphasis on radioactivity and ionizing radiations. *Three lecture hours a week, fall.* Underwood.

163 RADIATION INSTRUMENTATION (3). Prerequisite, ENVR 162. A laboratory study of measurements of radioactivity with emphasis on the principles of operation of the instruments. *One lecture and four laboratory hours a week, fall.* Underwood.

164 FIELD OBSERVATIONS IN RADIOLOGICAL HYGIENE (3). Prerequisites, ENVR 118 and ENVR 119. Field fee, $200. *Six laboratory hours a week, fall, spring, and summer.* Chanlett, Wilhoit.

170 READING IN SANITARY ENGINEERING AND WATER RESOURCES (1 or more). The subject and requirements of the project are arranged with the faculty in each individual instance. *Two or more hours a week, fall, spring, and summer.* Staff.

171 PRINCIPLES OF WATER QUALITY MANAGEMENT (2). *Two lecture hours a week, spring.* Lamb; staff.

173 DESIGN OF HYDRAULIC STRUCTURES (3). Prerequisite, undergraduate degree. Hydraulic design for waterworks and sewerage projects. *Six lecture hours a week, first summer session.* Barnes.

174 WATER AND WASTES TREATMENT PROCESSES (4). Prerequisites, ENVR 121, 123 and 131, or equivalent. *Three lecture and two laboratory hours a week, spring.* Lamb.

200 PROBLEMS IN ENVIRONMENTAL SCIENCES AND ENGINEERING (1 or more). For students outside the Department. Requirements of the project are arranged with the faculty in each individual instance. *Two or more hours a week, fall, spring, and summer.* Staff.

212 PLANNING AND DEVELOPMENT OF ENVIRONMENTAL HYGIENE PROGRAMS (3). Prerequisite, ENVR 111 or equivalent or permission of the instructor. *Two lecture and two seminar hours a week, spring.* Shiffman.

217 SYSTEMS ANALYSIS IN ENVIRONMENTAL PLANNING (PLAN 217) (3). Prerequisites, calculus, BIOS 130, or equivalent. *Three lecture hours a week, fall.* Sherwani.

220 PROBLEMS IN ENVIRONMENTAL CHEMISTRY AND BIOLOGY (1 or more). THE MSPH degree requirement of a technical report is generally met by undertaking an experimental study on some problem in environmental chemistry or environmental biology. The scope of the investigation may extend over more than one semester and credit for the study is carried accordingly. *Fall, spring, and summer.* Staff.

221 INSTRUMENTAL METHODS OF ANALYSIS (4). Prerequisites, inorganic and analytical chemistry or permission of the instructor. *Two lecture and four laboratory hours a week, spring.* Johnson.

223 ANALYTICAL METHODS IN ENVIRONMENTAL CHEMISTRY AND BIOLOGY II (3). Prerequisite, ENVR 123. (1967 and alternate years.) *One lecture and four laboratory hours a week, spring.* Weiss, Johnson.

231 ENVIRONMENTAL MICROBIOLOGY (3). Prerequisites, organic chemistry and ENVR 131 or ENVR 133, and permission of instructor. *One lecture and four laboratory hours a week, spring.* Mah.

232 LIMNOLOGY AND WATER POLLUTION (3). Prerequisites, ENVR 121, 123, 131. *Two lecture and two laboratory hours a week, spring.* Weiss.

233 MICROBIAL ECOLOGY (4). Prerequisites, ENVR 231 or permission of instructor. (1967 and alternate years.) *Two lecture and four laboratory hours a week, fall.* Mah.

234 BIOLOGICAL AND BIOCHEMICAL ASSAYS (3). Prerequisites, ENVR 125, ENVR 123, and ENVR 133 or equivalents. (1966 and alternate years.) *Two lecture and two laboratory hours a week, spring.* Weiss.

235 ECOLOGY OF PHYTOPLANKTON (4). Prerequisites, ENVR 232 or general ecology or aquatic biology. ENVR 123 or similar experience in water chemistry is recommended. *Two lecture and four laboratory hours a week, fall.* Kuenzler.

240 PROBLEMS IN AIR AND INDUSTRIAL HYGIENE (1 or more). Prerequisites, graduate standing and permission of the instructor. *Fall, spring, and summer.* Fraser, Ripperton, Chanlett.

241 MECHANICS OF AEROSOLS (3). Prerequisites, admission to the Department of Environmental Sciences and Engineering or permission of the instructor. *Three lecture hours a week, fall.* Fraser.

242 INDUSTRIAL HYGIENE PRACTICES (3). Prerequisites, ENVR 241 and ENVR 143. *Two lecture and two laboratory hours a week, spring.* Fraser.

243 AIR AND ITS GASEOUS CONTAMINANTS (3). Corequisite, ENVR 241. *Three lecture hours a week, fall.* Ripperton.

244 AIR AND INDUSTRIAL HYGIENE LABORATORY (3). Prerequisites, ENVR 241 and ENVR 243. *One lecture and four laboratory hours a week, spring.* Fraser, Ripperton.

245 COMMUNITY AIR POLLUTION (3). Prerequisite, ENVR 241. *Two lecture and two laboratory hours a week, spring.* Ripperton, Chanlett.

246 BIOLOGICAL EFFECTS OF AIR POLLUTION (3). Prerequisites, ENVR 143, ENVR 245, or graduate standing in one of the biological sciences. (1966 and alternate years.) *Three lecture hours a week, fall.* Ripperton.

247 CHEMISTRY OF THE TROPOSPHERE (3). Prerequisites, physical chemistry and permission of the instructor. The origin and removal of trace constituents in the atmosphere are discussed. (1967 and alternate years.) *Three lecture hours a week, fall.* Ripperton.

250 PROBLEMS IN ENVIRONMENTAL AND FOOD SANITATION (1 or more). A technical report is required for the MPH or MSPH degrees. This requirement is satisfied through the completion of an extensive study of a problem in environmental sanitation and food sanitation. This study may extend over one or more semesters and credit is assigned accordingly. *Fall, spring, and summer.* Staff.

251 TOPICS IN ENVIRONMENTAL SANITATION (3). Prerequisite, ENVR 151. *Six lecture hours a week, first summer session.* Shiffman.

252 TOPICS IN FOOD SANITATION (3). Prerequisite, ENVR 152. *Six lecture hours a week, second summer session.* Regier.

260 PROBLEMS IN RADIOLOGICAL HYGIENE (1 or more). Prerequisite, admission to the Radiological Hygiene Program. *Fall, spring, and summer.* Chanlett, Underwood, Willhoit.

261 RADIOLOGICAL HYGIENE PRINCIPLES (3). Prerequisites, ENVR 162 and corequisite ENVR 263. *Three lecture hours a week, spring.* Willhoit, Chanlett.

262 HEALTH PHYSICS (3). Prerequisites, ENVR 163, ENVR 261, and ENVR 263. The principles of radiation protection. (1967 and alternate years.) *Four lecture and four laboratory hours a week, second summer session.* Willhoit.

263 RADIATION HAZARDS EVALUATION I (3). Prerequisite, ENVR 162. The fundamentals of dosimetry are presented. *Three lecture hours a week, spring.* Underwood.

264 RADIATION HAZARDS EVALUATION II (3). Prerequisite, ENVR 263. *One lecture and four laboratory hours a week, fall.* Underwood.

270 PROBLEMS IN SANITARY ENGINEERING AND WATER RESOURCES (1 or more). The subject and requirements of the project are arranged with the faculty in each individual instance. *Two or more hours a week, fall, spring, and summer.* Staff.

272 WATER SUPPLY AND WASTEWATER DISPOSAL SYSTEMS (3). Prerequisite, B.S. in Civil, Chemical or Sanitary Engineering. *Two lecture and two seminar hours a week, fall.* Lamb.

273 WATER AND WASTEWATER TREATMENT PLANT DESIGN (4). Corequisite, ENVR 174, and prerequisite, ENVR 272. *Three lecture and two seminar hours a week, spring.* Lamb.

274 ADVANCED WATER AND WASTES TREATMENT PROCESSES (4). Prerequisites, ENVR 125 and ENVR 174, or equivalent. *Three lecture and two laboratory hours a week, fall.* O'Melia.

275 INDUSTRIAL WATER QUALITY MANAGEMENT (3). Prerequisites, ENVR 171 and ENVR 174, or equivalent. Water supply and wastes disposal problems of industries. *Two lecture and two seminar hours a week, fall.* Lamb.

277 ENGINEERING PROJECT DESIGN (3). Prerequisites, ENVR 217, ENVR 272, ENVR 273, and BIOS 130 or equivalent. *Six lecture hours a week, first summer session.* Sherwani.

281 TOPICS IN ADVANCED HYDROLOGY (3). Prerequisites, ENVR 272 and BIOS 130 or equivalent. *Three lecture hours a week, spring.* Sherwani.

282 PUBLIC INVESTMENT THEORY AND TECHNIQUES (PLAN 232) (3). Prerequisite, permission of the instructor. A study of new methods of economic, engineering, and governmental analysis in public investment planning. *Three lecture hours a week, fall.* Hufschmidt.

283 RESOURCE DEVELOPMENT LAW AND POLICY (PLAN 233) (3). Prerequisite, permission of instructor. *Three lecture hours a week, fall.* Heath.

284 PLANNING OF WATER RESOURCE SYSTEMS (3). Prerequisites, ENVR 217 and ENVR 282 or permission of instructor. *Three lecture hours a week, spring.* Hufschmidt.

300 RESEARCH IN ENVIRONMENTAL SCIENCES AND ENGINEERING (2 or more). Prerequisite, consultation with the faculty and approval of

subject and proposed program. For students outside the Department. *Four or more hours a week, fall, spring, and summer.* Staff.

311 SEMINAR IN ENVIRONMENTAL HEALTH (1). Open by special arrangement to students doing advanced graduate work. *Two seminar hours a week, fall and spring.* Weiss; staff.

313 ENVIRONMENTAL HEALTH PROBLEMS IN DEVELOPING COUNTRIES (1) *Two seminar hours a week, spring.* Shiffman.

320 RESEARCH IN ENVIRONMENTAL CHEMISTRY (2 or more). *Fall, spring, and summer.* Staff.

330 RESEARCH IN ENVIRONMENTAL BIOLOGY (2 or more). *Fall, spring, and summer.* Staff.

340 RESEARCH IN AIR AND INDUSTRIAL HYGIENE (2 or more). Prerequisites, graduate standing and permission of the instructor. *Fall, spring, and summer.* Ripperton, Fraser, Chanlett.

350 RESEARCH IN ENVIRONMENTAL AND FOOD SANITATION (2 or more). Independent study and research in environmental sanitation and food sanitation. *Fall, spring, and summer.* Staff.

360 RESEARCH IN RADIOLOGICAL HYGIENE (2 or more). Prerequisite, advanced standing in the Radiological Hygiene Program. *Fall, spring, and summer.* Underwood, Willhoit.

370 RESEARCH IN SANITARY ENGINEERING (2 or more). Prerequisite, consultation with the faculty and approval of subject and proposed program. *Four or more hours a week, fall, spring, and summer.* Staff.

380 RESEARCH IN WATER RESOURCES (2 or more). Prerequisite, consultation with the faculty and approval of subject and proposed program. *Four or more hours a week, fall, spring, and summer.* Staff.

393 MASTER'S THESIS (0-9).

394 DOCTORAL DISSERTATION (0-9).

400 GENERAL REGISTRATION (0).

Department of Epidemiology (EPID)

140 PROBLEMS IN EPIDEMIOLOGY (1 or more). *Two or more hours a week,*
141 *fall and spring.* Staff.

160 PRINCIPLES OF EPIDEMIOLOGY (2). *One lecture and two laboratory hours a week, fall.* Cassel; staff.

211 EPIDEMIOLOGY OF COMMUNICABLE DISEASE (2). *Two lecture hours a week, fall.* Stewart.

260 EPIDEMIOLOGICAL FOUNDATIONS FOR DISEASE CONTROL PROBLEMS (3). Prerequisite, EPID 160 or equivalent. *Two lecture and two seminar hours a week, spring.* Cassel; staff.

261 DENTAL EPIDEMIOLOGY (2) *Two lecture hours a week, spring.* Fulton.

262 EPIDEMIOLOGY OF PROGRAM ACCEPTANCE (2). Prerequisite, EPID 160. *Two lecture hours a week, spring.* Jenkins, Wilson.

264 CULTURE AND HEALTH (3). Prerequisite, EPID 160. Study of the social and cultural determinants of health. *Three lecture hours a week, spring.* Patrick, Wilson.

265 HISTORY OF EPIDEMIOLOGY (3). Prerequisite, EPID 260 or 262, and 264. *Six lecture hours a week, first session, summer.* Fulton.

266 EPIDEMIOLOGICAL INVESTIGATION (3). Prerequisite, EPID 160. *Two lecture and two laboratory hours a week, spring and summer.* Tyroler.

360 RESEARCH IN EPIDEMIOLOGY (2 or more). Open to advanced students
361 only. *Four or more laboratory hours a week, to be arranged, fall and spring.* Graduate faculty.

393 MASTER'S THESIS (0-9). *Fall and spring.* Graduate faculty.

394 DOCTORAL DISSERTATION (0-9). *Fall and spring.* Graduate faculty.

400 GENERAL REGISTRATION (0).

Department of Maternal and Child Health (MHCH)

100 INTRODUCTION TO PROBLEMS OF HEALTH AND DISEASE (SOWO 280) (3). *Two lecture and two seminar hours a week, spring.* Gourley, Peters.

101 SOCIAL FACTORS IN COMMUNITY HEALTH (2). *Two lecture hours a week, summer.* Gourley.

102 HUMAN GROWTH AND DEVELOPMENT (2). *Two lecture hours a week, by arrangement.* Staff.

140 PROBLEMS IN MATERNAL AND CHILD HEALTH (1 or more). Pre-
141 requisites to be arranged with the faculty in each individual case. *Two to six*
142 *hours a week, fall, spring, and summer.* Staff.

200 INTRODUCTION TO MATERNAL AND CHILD HEALTH I (2). Designed for students who do not have a medical or nursing background. *One lecture and two seminar hours a week, spring or summer.* Chipman, Morris.

201 INTRODUCTION TO MATERNAL AND CHILD HEALTH II (2). Intended for students with a medical and nursing background. *One lecture and two seminar hours a week, spring or summer.* Stocking, Morris.

210 MATERNAL AND CHILD HEALTH I (3). Designed for students with a major interest in the health of mothers and children. *Two lecture and two seminar hours a week, fall.* Siegel, Morris.

211 MATERNAL AND CHILD HEALTH II (3). Continuation of MHCH 210 but deals primarily with health problems and programs for school age children and for children with handicaps. *Two lecture and two seminar hours a week, spring.* Siegel, Chipman.

212 SOCIAL PROBLEMS AND SERVICES FOR CHILDREN AND THEIR FAMILIES (2). This course considers social problems affecting the health and welfare of children and families and basic community services developed to cope with such problems. *Two lecture hours a week, spring.* Gourley, Udry.

213 ADVANCED PROBLEMS IN MATERNAL AND CHILD HEALTH (2). *Two lecture hours a week, spring or summer.* Staff.

214 FIELD TRAINING IN MATERNAL AND CHILD HEALTH (2-8). Field fee, $300. *Summer, 6-10 weeks.* Chipman; staff.

300 RESEARCH IN MATERNAL AND CHILD HEALTH (2 or more). Open by special arrangement to students desiring to initiate and pursue an original investigation of a selected problem. *Four or more hours a week, fall, spring, or summer.* Chipman; staff.

393 MASTER'S THESIS (0-9). Chipman; staff.

394 DOCTORAL DISSERTATION (0-9).

400 GENERAL REGISTRATION (0).

Department of Mental Health (MENH)

130 ASSESSMENT OF INDIVIDUAL AND COMMUNITY MENTAL HEALTH (3). *Two lecture and two seminar hours a week, spring.* Leighton, Edgerton.

135 HUMAN BEHAVIOR (2). *One lecture and two seminar hours a week, spring and summer.* Filley; staff.

140 PROBLEMS IN MENTAL HEALTH (2). *Fall and spring.* Staff.
141

142 PROBLEMS IN MENTAL HEALTH (2). *Summer.* Staff.

150 SURVEY OF MENTAL HEALTH PROGRAMS (2). *One lecture and two seminar hours a week, fall.* Staff.

170 MENTAL HEALTH SEMINAR I (2). *Four hours a week, fall.* Staff.

210 FOUNDATIONS FOR MENTAL HEALTH PRACTICE (2). *One lecture and two seminar hours a week, fall.* Staff.

255 CONSULTATION: A PUBLIC HEALTH METHOD (2). *One lecture and two laboratory hours a week, fall and summer.* Cline.

256 CONSULTATION: A PUBLIC HEALTH METHOD (2-4). *One or more lecture and two or more laboratory hours a week, fall.* Cline.

270 MENTAL HEALTH SEMINAR II (2). *Four hours a week, spring.* Staff.

271 MENTAL HEALTH SEMINAR III (2). *Four hours a week, summer.* Staff.

339 RESEARCH IN MENTAL HEALTH (2 or more).

393 MASTER'S THESIS (0-9).

394 DOCTORAL DISSERTATION (0-9).

400 GENERAL REGISTRATION (0).

Department of Parasitology (PARA)

131 PARASITISM AND HUMAN DISEASE (2). This course provides a background for other public health sciences, especially epidemiology and environmental health. *One lecture and two laboratory hours a week, fall.* Larsh; staff.

134 HUMAN PARASITOLOGY (3). Prerequisite, permission of instructor. *Two lecture and two laboratory hours a week, fall.* Larsh; staff.

140 PROBLEMS IN PARASITOLOGY (1 or more). A course for students who
141 wish to make an intensive study of some special problem. *Two or more hours a week, fall and spring.* Staff.

230 COMPARATIVE PHYSIOLOGY OF ANIMAL PARASITES (2). Prerequisite, permission of instructor. *Two lecture hours a week, spring.* Weatherly.

232 PARASITOLOGICAL METHODS (4). Prerequisite, PARA 134. *Two lecture and four laboratory hours a week, spring.* Goulson.

233 MALARIOLOGY (3). Prerequisite, permission of instructor. *Two lecture and two laboratory hours a week, fall.* Watson.

234 MEDICAL ENTOMOLOGY (3). Prerequisites, Zoology 11 and PARA 134, or equivalents. *Two lecture and two laboratory hours a week, spring.* Hendricks.

235 PROBLEMS IN PUBLIC HEALTH LABORATORY METHODOLOGY (1
236 or more). Prerequisite, permission of instructor. *Two or more hours a week, fall and spring.* Larsh.

237 PUBLIC HEALTH LABORATORY METHODS I (5). Prerequisite, permission of instructor. Lectures, demonstrations and laboratory work on the most important microbiological diagnostic procedures, e.g., immunoserology, used in the modern public health laboratory. *Two lecture and six laboratory hours a week, spring.* Chaffee.

330 SEMINAR IN PARASITOLOGY (1). Prerequisite, permission of staff. *One*
331 *seminar hour a week, fall and spring.* Staff.

332 SEMINAR IN PUBLIC HEALTH LABORATORY PRACTICE (1). Pre-
333 requisite, permission of staff. *One seminar hour a week, fall and spring.* Staff.

334 RESEARCH IN PARASITOLOGY (2 or more). Open to advanced students
335 only. *Four or more laboratory hours a week, to be arranged, fall and spring.* Larsh, Goulson, Hendricks, Weatherly.

336 RESEARCH IN PUBLIC HEALTH LABORATORY METHODOLOGY (2
337 or more). Open to advanced students only. *Four or more laboratory hours a week, to be arranged, fall and spring.* Larsh, Weatherly.

393 MASTER'S THESIS (0-9). *Fall and spring.* Members of the graduate faculty.

394 DOCTORAL DISSERTATION (0-9). *Fall and spring.* Members of the graduate faculty.

400 GENERAL REGISTRATION (0).

Department of Public Health Administration (HADM)

100 HEALTH SERVICES ADMINISTRATION (2). A survey course in administrative theory and process relating to health services systems and program areas at the level of community, state, region and nation. *One lecture and two seminar hours a week, fall.* Flash, Cameron; staff.

102 LEGAL BASIS OF PUBLIC HEALTH PRACTICE (1). *Two seminar hours a week, spring.* Ligon, Flash.

140 PROBLEMS IN PUBLIC HEALTH ADMINISTRATION (1 or more).
141 Prerequisites to be arranged with the faculty in each case. A course for stu-
142 dents of community health administration who wish to make an intensive study of some special problem. *Hours to be arranged, fall, spring, and summer.* Staff.

170 PERSONAL HEALTH SERVICES ADMINISTRATION I (2). Introduction to medical care and personal health services administration: financing, organizing the delivery, regulating and improving standards, developing and allocating resources, planning and coordinating relationships. *One lecture and two seminar hours a week, fall.* Gentry, Johnson, Coulter, Huntley.

200 PRINCIPLES OF COMMUNITY HEALTH ADMINISTRATION (2). Prerequisite HADM 100. *One lecture and two seminar hours a week, spring.* Cameron; staff.

201 APPLIED PRINCIPLES OF COMMUNITY HEALTH ADMINISTRATION (2). Prerequisites, HADM 100, 200. *One lecture and two seminar hours a week, spring.* Staff.

202 SEMINAR IN PUBLIC HEALTH ADMINISTRATION (1 each). *Two*
203 *seminar hours a week, fall, spring, and summer.* Staff.
204

206 FIELD WORK IN COMMUNITY HEALTH ADMINISTRATION (8 to 16). Prerequisites, HADM 100, 200. Restricted to students majoring in Community Health Administration. Field fee $300. *Summer.* Staff; Field Preceptors in Community Health Agencies.

211 CONTROL OF COMMUNICABLE DISEASES (2). This course is designed to acquaint the physician and administrator with contemporary concepts in the control of communicable disease. *Two lecture hours a week, spring.* Staff.

212 PRINCIPLES OF CHRONIC DISEASE CONTROL (2). *One lecture and two seminar hours a week, spring.* Cameron, Holley.

214 INTRODUCTION TO OCCUPATIONAL HEALTH (2). *One lecture and two seminar hours a week, spring.* Wilson, Flash.

220 VETERINARY MEDICINE AND PUBLIC HEALTH (2). Emphasis is placed on administration, epidemiology of the zoonoses, food hygiene and production, radio-biology and comparative medicine. *One lecture and two seminar hours a week, spring.* Cameron, Hines.

230 DENTAL PUBLIC HEALTH PRACTICE (2). *One lecture and two seminar hours a week, spring.* Hughes.

231 SEMINAR IN DENTAL PUBLIC HEALTH PRACTICE (2). Open only to dental public health majors in the School of Public Health. *One lecture and two seminar hours a week, spring.* Hughes.

240 PHYSICAL THERAPY IN COMMUNITY HEALTH PROGRAMS (3). Open only to graduate physical therapists. *Two lecture and two seminar hours a week, spring.* Holley.

250 ACCIDENT CONTROL METHODS I (2). An introduction to accidents as a community health problem and methodology in accident control. *Two lecture hours a week, fall.* Westaby.

251 ACCIDENT CONTROL METHODS II (2). The principles of accident control in the administration of community safety programs. *Four seminar hours a week, spring.* Westaby.

270 PERSONAL HEALTH SERVICES ADMINISTRATION II (3). Prerequisite, HADM 170. Advanced work in medical care and personal health services administration: Health economics, the health insurance industry, behavioral sciences, and administration technologies relevant to health services. *Two lecture and two seminar hours a week, spring.* Gentry, Johnson, Coulter, Huntley.

271 HEALTH FACILITIES ADMINISTRATION (3). No prerequisites. Introduction to the structure, functions, and administration of health services facilities. The hospital will be used as a model with additional consideration of long-term facilities. *Three lecture hours a week, spring.* Brown.

272 PROBLEMS IN PERSONAL HEALTH SERVICES ADMINISTRATION (1). Prerequisite, HADM 170. Contemporary medical care programs will be examined and evaluated as to effectiveness in reaching program objectives. Case histories and hypothetical communities will be used. *Two seminar hours a week, spring.* Gentry, Johnson, Coulter, Huntley.

300 RESEARCH IN COMMUNITY HEALTH ADMINISTRATION (2 or more). Open only to advanced students. *Hours to be arranged, fall, spring, and summer.* Flash, Cameron; staff.

305 RESEARCH IN MEDICAL CARE ADMINISTRATION (2 or more). Open only to advanced students. *Hours to be arranged, fall, spring and summer.* Gentry, Cameron; staff.

312 RESEARCH IN CHRONIC DISEASE CONTROL METHODS (2 or more). Open only to advanced students. *Hours to be arranged, fall, spring, and summer.* Cameron, Holley.

330 RESEARCH IN DENTAL DISEASE CONTROL METHODS (2 or more). Open only to advanced students. *Hours to be arranged.* Hughes.

393 MASTER'S THESIS (0-9). *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION (0-9). *Fall and spring.* Staff.

400 GENERAL REGISTRATION (0).

Department of Public Health Education (PHED)

100 HEALTH SCIENCES BASIC TO HEALTH EDUCATION PRACTICE (4). Includes the elements of biostatistics and causative agents of disease. Open to undergraduates majoring in health education. *Three lecture and two laboratory hours a week, fall.* Walker, Kent, Boatman.

101 PRINCIPLES OF PUBLIC HEALTH IN HEALTH EDUCATION PRAC-
102 TICE I, II (4). *Three lecture and two laboratory hours a week, fall and spring.* Kent.

103 FIRST AID AND SAFETY EDUCATION (2). Required for undergraduate majors in health education. Open to students of other departments. *One lecture and two laboratory hours a week, spring.* Kent.

104 SCHOOL AND COMMUNITY ORGANIZATION FOR HEALTH EDUCATION (4). Required for undergraduate majors in health education. *Three lecture and two laboratory hours a week, spring.* Kent, McMahan, Walker.

105 METHODS AND MATERIALS IN TEACHING PUBLIC HEALTH EDUCATION (EDUC 93) (3). The description for this course is the same as that for other methods and materials courses in the School of Education in the 61, 63, 91, 93 series. *Two lecture and two laboratory hours a week. spring.* Kent, McMahan.

106 STUDENT TEACHING IN COMMUNITY HEALTH EDUCATION (EDUC 94) (9). The description for this course is the same as that for other student teaching courses in the School of Education in the 62, 64, 90, 92, 94 series. *Spring.* Staff.

107 THEORY AND PRACTICE OF TEACHING HEALTH EDUCATION (EDUC 96) (15). Open only to seniors in the School of Education. In this block program, time is devoted to study, school organization, methods and materials of teaching health education and to student teaching. NOTE: Students deficient in quality points will not be admitted to the professional block. Staff.

110 INTRODUCTION TO COMMUNITY DEVELOPMENT (3). *Two lecture and two laboratory hours a week, fall.* McMahan, staff.

120 SCHOOL-COMMUNITY HEALTH PROBLEMS AND PROGRAMS: THE YOUNGER GENERATION (3). *Two lecture and two laboratory hours a week, spring, even years.* Staff.

121 COMMUNITY RESOURCES AND EDUCATIONAL ASPECTS OF THE SCHOOL HEALTH PROGRAM (3). *Two lecture and two laboratory hours a week, spring, odd years.* Staff.

129 LEARNING AND EDUCATION IN THE CONTEXT OF PUBLIC HEALTH EDUCATION (2). Graduates majoring in Public Health Education. *One lecture and two laboratory hours a week, spring.* Kent.

130 INTRODUCTION TO COMMUNICATION AND GROUP DYNAMICS (3). *Two lecture and two laboratory hours a week, fall.* Staff.

134 EDUCATIONAL ANALYSIS OF HEALTH PROBLEMS AND PROGRAMS (3). The philosophy, principles and practices of education. *Two lecture and two laboratory hours a week, summer.* Staff.

140 PROBLEMS IN HEALTH EDUCATION (1 or more). Prerequisite, to be
141 arranged with the faculty in each individual case. *Fall, spring, and summer.*
142 Staff.

201 RELATED FIELDS IN HEALTH EDUCATION I, II (3). Prerequisite,
202 permission of the instructor. Pertinent contributions of social sciences and education to public health education. *Spring and summer.* Staff.

203 SPECIAL FIELDS IN PUBLIC HEALTH EDUCATION I, II (3). Prerequi-
204 site, PHED 210. *Spring and summer.* Staff.

205 PRINCIPLES OF PUBLIC HEALTH EDUCATION (2). A survey of philosophy, principles of learning and materials of special importance to the public health worker. *One lecture and two laboratory hours a week, fall.* Staff.

210 COMMUNITY DEVELOPMENT FOR HEALTH EDUCATION (3). *Two lecture and two laboratory hours a week, fall.* McMahan.

211 ADVANCED COMMUNITY DEVELOPMENT FOR HEALTH EDUCATION (2). Prerequisite, PHED 210. *One lecture and two laboratory hours a week, spring.* McMahan; staff.

221 SCHOOL HEALTH EDUCATION (2). *One lecture and two laboratory hours a week, fall.* Walker.

230 ADVANCED PROBLEMS IN HEALTH EDUCATION (1 or more). De-
231 signed especially for health educators. *Fall, spring, and summer.* Mast.
232

240 FIELD WORK IN HEALTH EDUCATION (8-10). Open only to students, majoring in health education. Field fee, $300. *Full-time, spring.* Staff.

300 DEVELOPMENTS CURRENT TO PUBLIC HEALTH EDUCATION (2). Prerequisite, Master of Public Health degree or equivalent. *One lecture and two laboratory hours a week, fall.* Boatman.

302 ADVANCED SPECIAL FIELDS IN PUBLIC HEALTH EDUCATION (2). Prerequisites, Master of Public Health degree and/or permission of the instructor. *One lecture and two laboratory hours a week, spring.* Kent.

305 INTRODUCTION TO PUBLIC HEALTH EDUCATION RESEARCH (3). Open by special arrangement to students doing advanced graduate work in health education. *Two lecture and two laboratory hours a week, fall.* Walker.

310 SEMINAR ON THE ORGANIZATION AND ADMINISTRATION OF SCHOOL AND COMMUNITY HEALTH EDUCATION (3). Open by special arrangement to students doing advanced graduate work. *Two lecture and two laboratory hours a week, fall.* McMahan.

330 SEMINAR IN HEALTH EDUCATION: COMMUNICATION AND GROUP DYNAMICS (3). Open by special arrangement to students doing advanced graduate work. *Spring.* Boatman, McMahan.

331 SEMINAR IN HEALTH EDUCATION: EDUCATION (3). Open by special arrangement to students doing advanced graduate work. *Fall.* Walker.

332 SEMINAR IN HEALTH EDUCATION: ADMINISTRATION IN HEALTH EDUCATION (3). Open by special arrangement to students doing advanced graduate work. *Spring.* Boatman.

340 ADVANCED FIELD TRAINING IN HEALTH EDUCATION (8). Open only to doctoral candidates and other advanced graduate students who have been engaged in public health education at least two years beyond completion of the master's program. Field fee, $300. *Fall and spring.* Staff.

350 RESEARCH IN HEALTH EDUCATION (2 or more). Individual arrangements may be made for supervised investigation of selected problems in Community Development. *Four or more laboratory hours a week, fall, spring, and summer.* Staff.

351 RESEARCH IN HEALTH EDUCATION (2 or more). Individual arrangements may be made for supervised investigation of selected problems in Communication, Process and Media. *Four or more laboratory hours a week, fall, spring, and summer.* Staff.

352 RESEARCH IN HEALTH EDUCATION (2 or more). Individual arrangements may be made for supervised investigation of selected problems in Practice and Evaluation. *Four or more laboratory hours a week, fall, spring, and summer.* Staff.

353 RESEARCH IN HEALTH EDUCATION (2 or more). Individual arrangements may be made for supervised investigation of selected problems in Education and Training. *Four or more laboratory hours a week, fall, spring, and summer.* Staff.

354 RESEARCH IN HEALTH EDUCATION (2 or more). Individual arrangements may be made for supervised investigation of selected problems in Special Health Problems. *Four or more laboratory hours a week, fall, spring, and summer.* Staff.

393 MASTER'S THESIS (0-9). *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION (0-9). *Fall and spring.* Staff.

400 GENERAL REGISTRATION (0).

Department of Public Health Nursing (PHNU)

140 PROBLEMS IN PUBLIC HEALTH NURSING (1 or more). Prerequisites
141 to be arranged with the faculty. *Hours to be arranged, spring and summer.* Staff.

197 PHILOSOPHY AND PRINCIPLES OF SUPERVISION (3). For public health nursing students or permission of instructor. *Two lecture and two seminar hours a week, spring.* Dolan, Lowe, Watkins.

290 PUBLIC HEALTH NURSING SERVICES (1). For non-nurse graduate students in public health. Introduction and orientation to the philosophy and principles of public health nursing. *Two seminar hours a week, spring and summer.* Dolan.

296 ADVANCED FIELD PRACTICE IN PUBLIC HEALTH NURSING (2). Prerequisites, MENH 210 or 236. *Two seminar and two laboratory hours a week, spring.* Cline, Watkins, Lister.

297 ADVANCED SUPERVISION IN PUBLIC HEALTH NURSING (3). Prerequisite, PHNU 197 or equivalent. For graduate students in public health nursing. *Two lecture and two seminar hours a week, summer.* Dolan, Lowe, Watkins.

299 RESEARCH METHODS IN PUBLIC HEALTH NURSING (3). Primarily for graduate students in public health nursing. *Two lecture and two laboratory hours a week, spring.* Nelson, Mongeau.

393 MASTER'S THESIS (0-9).

396 ADVANCED FIELD PRACTICE IN PUBLIC HEALTH NURSING (2). Prerequisites, MENH 210 or 236, PHNU 296. *Two seminar and two laboratory hours a week, summer.* Cline, Watkins, Lister.

399 RESEARCH IN PUBLIC HEALTH NURSING (4). Prerequisites, PHNU 299 and BIOS 100. Independent research under supervision. *Eight laboratory hours a week, summer.* Mongeau.

400 GENERAL REGISTRATION (0).

Department of Public Health Nutrition (NUTR)

140 PROBLEMS IN PUBLIC HEALTH NUTRITION (1 or more). Prerequi-
141 sites to be arranged with the faculty in each case. *Hours to be arranged,*
142 *fall, spring and summer.* Bryan, Broach.

143 PRINCIPLES OF HUMAN NUTRITION AND METABOLISM (2). For students majoring in nutrition and others by consent of the instructor. *Two lecture hours a week, fall.* Bryan.

240 FAMILY DIETARY PRACTICES AND THEIR DETERMINANTS (3). For students majoring in nutrition and others by consent of the instructors. Seminars and home interviews. *Hours to be arranged, spring.* Broach, Patrick.

241 PRINCIPLES OF PUBLIC HEALTH NUTRITION (2). *Two lecture hours a week, fall.* Bryan.

242 NUTRITION AND HEALTH IN HUMAN POPULATIONS (3). Prerequisite or corequisite, NUTR 143 or equivalent. *Three lecture hours a week, fall.* Bryan.

243 NUTRITION PROGRAMS AND SERVICES IN PUBLIC HEALTH I
244 AND II (2 each). Prerequisites, NUTR 143, 242 or equivalent. A course for students majoring in nutrition. *Four lecture hours a week, spring (first half) and summer.* Broach.

245 SEMINAR IN PUBLIC HEALTH NUTRITION (3). Prerequisites, NUTR 143, 242, 243, 244. For students majoring in nutrition. *Summer.* Broach.

246 THE DIETARY SURVEY (2). Prerequisites, NUTR 143, 242, and BIOS 100 or equivalent or consent of the instructor. *One lecture and two laboratory hours a week, fall.* Bryan.

247 FIELD WORK IN PUBLIC HEALTH NUTRITION (6). Students majoring in public health nutrition are assigned to a local or district health department for eight weeks of supervised field experience. Field fee, $300. *Spring.* Broach; nutritionists in local and state health departments.

341 RESEARCH IN PUBLIC HEALTH NUTRITION (2 or more). *Fall, spring, and summer.* Bryan, Broach.

393 MASTER'S THESIS (0-9). *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION (3). *Fall and spring.* Staff.

400 GENERAL REGISTRATION (0).

DEPARTMENT OF RADIO, TELEVSION, AND MOTION PICTURES

Professors: EARL WYNN, WAYNE A. DANIELSON, WESLEY H. WALLACE, *Chairman*
Visiting Professor: ERIC F. PRICE[1]
Associate Professors: JOHN S. CLAYTON,[2] WILLIAM M. HARDY
Assistant Professors: ROSS E. SCROGGS, JR., ROBERT J. GWYN
Instructors: FRANK E. BEAVER, RALPH G. DENNIS
Lecturers: DONALD B. UPHAM, GEORGE B. GRILLS, DEBORAH WHITTIER STIRLING
Graduate Assistants: IAN COLLINS, VALERIE T. ELDRIDGE, LEE W. HAUSER, KAREN VOM LEHN STORCK, MICHAEL A. THOMSEN

The curriculum falls into five divisions: criticism; institutional, which includes historical, economic, social, and legal aspects of the media; production, which includes speech, performance, and directing; research; and writing. The undergraduate major will take the basic course in the institutional, production, and writing areas. These courses are radio, television, and motion pictures (R-TV-MP) 58, 60, and either 78 or 81. In addition, the student may elect five courses above the sophomore level from the remainder of the curriculum.

Consistent with University requirements, the student will take five to eight courses in departments allied with radio, television, and motion pictures (departments in the Division of Fine Arts and the Division of Humanities), and five to eight courses in other divisions of the College of Arts and Sciences. A departmental adviser will assist in guiding each student to a broad, liberal education through conferences and the periodic study of each student's class and extracurricular activities related to the Department's functions. These extracurricular activities are voluntary, but are faculty directed and are an important part of the teaching program. They include work in the radio and television stations of the University, and special projects in all three media.

The Department offers two programs for graduate study. One leads to the degree of Master of Arts in Communication, and the other, more limited, program leads to a Certificate in Communication.

For the Master of Arts in Communication degree, seven courses will be taken in the major field, and of these the courses numbered 190, 300, and 393 are required; three courses will be taken in a minor field approved by the major department. The residence requirement is one academic year.

1. Mahlon K. Jordan Visiting Professor.
2. Absent on leave, September 1, 1966 to August 31, 1967.

For the Certificate in Communication, the student must complete seven graduate courses in the major, omitting 300, 393, and the minor. Courses listed in this section are open to all students as indicated.

Courses for Undergraduates

45 CRITICAL ANALYSIS OF RADIO, TELEVISION, AND MOTION PICTURES (3). Sophomore elective, open to juniors and seniors majoring in other departments. Students majoring in R-TV-MP may not take this course after they become juniors. Works of artistic merit are studied in terms of the intentions and attainments of the artists involved in their preparation. Through texts, scripts, radio recordings, and television and motion picture films, the student becomes acquainted with the contributions made by the writer, director, performers and other artists working in a production, and becomes acquainted with their relationships. *Fall and spring.* Clayton, Hardy, Beaver.

58 DEVELOPMENT OF BROADCASTING, PART I (Dramatic Art 58) (3). Sophomore elective, open to juniors and seniors. Required of all R-TV-MP majors. Definitions of broadcasting; a survey of the evolution of broadcasting, its role in society, and its relation to the public interest. Emphasis is placed upon current events and their significance for change in broadcasting's organization and operation. *Fall and spring.* Wallace.

78 WRITING FOR RADIO, TELEVISION, AND MOTION PICTURES, PART I (Dramatic Art 78) (3). Either 78 or 81 is required of all R-TV-MP majors. A basic course dealing chiefly with drama. *Fall and spring.* Hardy, Dennis.

99 HONORS (3). Reading and the preparation of an essay for honors or the preparation of a creative work or works for Honors in Writing under the direction of a departmental adviser. This is a two-semester course. Credit will be awarded at the end of the second semester of work. *Fall and spring.* Wallace; staff.

Courses for Graduates and Advanced Undergraduates

159 DEVELOPMENT OF BROADCASTING, PART II (Dramatic Art 159) (3). Prerequisite, R-TV-MP 58. (1967-1968 and alternate years.) A study of audiences, station organization and operation, and economic, cultural, and political factors which influence broadcasting. Emphasis is placed upon factors affecting management and program policies and decisions. *Fall.* Wallace.

171 IDEA, FORM, AND MEDIUM (3). An investigation of the relationship between the idea to be expressed, the form of the expression, and the medium chosen. Examples of this relationship will be studied in works chosen from four media; the stage, the motion picture, radio, and television, and will include examples from Greek, Tudor, and Modern Drama as well as selected examples of naturalism, expressionism, and related forms in radio, television, and motion pictures. *Fall.* Hardy.

179 WRITING FOR RADIO, TELEVISION, AND MOTION PICTURES, PART II (Dramatic Art 179) (3). Prerequisite, R-TV-MP 78 or R-TV-MP 81. Three major projects will be completed by each student, either dramatic or nonfiction and for any of the three media. *Spring.* Hardy.

190 SOCIAL ASPECTS OF MASS COMMUNICATION (3). Required of all graduate majors; undergraduates, by permission of the instructor. Media of mass communication are examined for their social and cultural roles in society—for their roles in reflecting, modifying, or creating attitudes, tastes, and opinions. While emphasis is upon the present, the course considers the historical development of the concept of mass communication and the rise of the mass media. *Spring.* Wallace.

Courses for Graduates

251 MEDIA RESEARCH METHODS (Journalism 251) (3). Prerequisite, graduate standing in journalism or radio, television, and motion pictures. Bibliography; elements of experimental design and survey research methodology; audience studies and audience measurement problems; content analysis; the Program Analyser and related procedures; representative studies. *Fall.* Danielson.

300 SEMINAR IN COMMUNICATION (3). Required. Individual research in a specialized field under the direction of a member of the graduate teaching staff. *Spring.* Wallace, Gwyn.

306abc PROBLEMS IN INSTITUTIONAL ASPECTS OF BROADCASTING (3). Prerequisite, R-TV-MP 159. Students carry on individual investigation of problems in broadcast management and programming and complete any individual projects assigned. (Not offered in 1967-1968.) *Fall and spring.* Wallace.

310abc EXPERIMENTAL AND CREATIVE WRITING (3). Prerequisite, R-TV-MP 179 or permission of the instructor. Individual projects in writing accomplished with appropriate research, conferences and criticism. *Fall and spring.* Hardy.

393 MASTER'S THESIS (3). Required. Graduate staff.

400 GENERAL REGISTRATION (0).

PROFESSIONAL AND PRODUCTION COURSES

Courses listed in this section are available in the College of Arts and Sciences only to those students majoring in radio, television, and motion pictures or in dramatic art. Students in other schools should consult their respective deans.

Courses for Undergraduates

60 PRODUCTION FUNDAMENTALS (Dramatic Art 60) (3). *Two lecture and two laboratory hours a week, fall and spring.* Wynn, Upham, Grills, Beaver.

81 NONFICTION WRITING (Dramatic Art 81) (3). Theories and practices of writing nondramatic materials for radio, television, and motion pictures. *Fall and spring.* Dennis.

Courses for Graduates and Advanced Undergraduates

140 EDUCATIONAL TELEVISION PRODUCTION AND INSTRUCTION (3). To prepare the educational television participant, including the producer-director, the classroom and studio teacher, and the curriculum coordi-

nator for effective production of instructional materials. Current uses of television; content consideration; cooperative program planning; techniques of television teaching; classroom considerations; potentials of various instructional forms; evaluation methodology. *Two lectures and two laboratory hours per week, fall.* Gwyn.

173 RESEARCH PROJECTS IN THE MASS MEDIA (Dramatic Art 173) (3). A proseminar for the study of research methods in the mass media and the completion of special research projects. *Spring.* Gwyn.

176 RADIO PRODUCTION ARTS[3] (Dramatic Art 176) (3). Prerequisite, R-TV-MP 60. Analysis and application of the principles and methods of radio production and direction. Standard and experimental program forms will be studied. *Two lecture and two laboratory hours a week, fall.* Gwyn.

177 TELEVISION PRODUCTION ARTS[3] (Dramatic Art 177) (3). Prerequisites, R-TV-MP 60. An intermediate course in television production covering basic techniques of producing educational and commercial live television; lecture, demonstration, news, interview, panel, and drama. A study of techniques and critical standards. *Two lecture and two laboratory hours a week, fall and spring.* Clayton, Price.

182 MOTION PICTURE AND TELEVISION PERFORMANCE (Dramatic Art 182) (3). Prerequisite, permission of the instructor. Theory and practice in speaking and acting. *Two lecture and two laboratory hours a week, fall.* Wynn.

187 MOTION PICTURE PRODUCTION ARTS[3] (Dramatic Art 187) (3). Prerequisite, R-TV-MP 60. The theory and techniques of film form are studied in lecture, demonstration, and student exercises. *Two lecture and two laboratory hours a week, spring.* Wynn, Scroggs.

Courses for Graduates

262 TELEVISION AND MOTION PICTURE PHOTOGRAPHY (3). Prerequisite, R-TV-MP 187. A study in the creative use of the camera as an instrument of pictorial presentation. (Not offered in 1967-1968.) *One lecture and four laboratory hours a week.* Scroggs.

267 STAGING FOR TELEVISION AND MOTION PICTURES I (3). Prerequisite, Dramatic Art 64 or permission of the instructor. Theory and practice in the designing of scenery and lighting. (Not offered in 1967-1968.) *One lecture and four laboratory hours a week, spring.* Wynn.

268 STAGING FOR TELEVISION AND MOTION PICTURES II (3). Prerequisite, R-TV-MP 267. A continuation of 267. (Not offered in 1967-1968.) *One lecture and four laboratory hours a week, spring.* Wynn.

305abc PRODUCTION PROJECTS (3). Prerequisite, R-TV-MP 176, 177 or 187. Individual students carry through to completion projects they initiate. The projects may include documentary films, a series of educational radio or television programs, a series of dramatic or documentary programs, or a full-stage television drama. *Fall and spring.* Wynn, Clayton, Scroggs, Price, Gwyn.

3. A graduate student minoring in radio, television, and motion pictures may be allowed to take R-TV-MP 176, 177, or 187 (or any two of these), by satisfying the laboratory fundamentals requirement through examination, or demonstration, or by taking without credit only those portions of R-TV-MP 60 which apply.

RECREATION ADMINISTRATION

(See Sociology)

DEPARTMENT OF RELIGION

Professors: A. S. NASH, BERNARD BOYD[1]
Associate Professors: S. S. HILL, JR., *Chairman*, J. W. DIXON, JR.
Assistant Professors: JACK SASSON, W. J. PECK
Part-time Instructor: MARGUERITE BOU-RAAD

A department of religion in a state university is inevitably concerned with the study of religion from the standpoint of both the humanities and the social sciences. In other words, a department in such a setting enables one to study religion, if he wishes, along with literature, art, science, politics, philosophy, and the like, as a major factor in the life of man. Accordingly students initially pursue their interest in this field with a consideration of Biblical literature (Religion 28) or of the role of religion in American culture (Religion 32) or of comparative religion (Religion 45).

More advanced courses in the Department are available to those who wish to proceed further with their interest in a particular aspect of the study of religion. Students desiring to major in religion will utilize these more advanced courses to undertake a program which will place emphasis upon Biblical studies or upon the role of religion in human culture. Majors in religion, therefore, will build on the three required introductory courses (or their equivalents in other institutions), then follow a course of study according to either of these alternatives:

Major in Biblical Studies: six upper-college courses which must include Religion 80, Religion 81, Religion 50 or Religion 130, and at least one of the two courses Religion 121 and Religion 171.

Major in Religion and Culture: six upper-college courses, which must include Religion 91, and Religion 50 or Religion 130 or Religion 150, and at least one of the three courses Religion 95, Religion 103, and Religion 170.

Any student who plans to major in religion should consult the departmental adviser as early as possible to make curricular arrangements. If a student anticipates additional work at a theological seminary, he will wish to construct the rest of his program to accord with the recommendations of the American Association of Theological Schools. If one wishes to proceed to graduate study in religion, he should give special consideration to the inclusion in his undergraduate program of one or more languages in which the sacred literatures of the world have been written. The attention of such a student should early be drawn

1. James A. Gray Professor of Biblical Literature.

to courses offered by the University in Hebrew, New Testament Greek, Arabic, and Sanskrit. One enrolled in the School of Education may desire to qualify for accreditation as a high school teacher of religion, along with some other subject.

Special mention should be made of other undergraduate courses which have a particular relevance to the study of religion. Among the more important of these are Philosophy of Religion (Philosophy 52); Literary Aspects of the Bible (English 63); Archaeology of the Bible (Classics 85); and The Ancient Near East (History 51).

Programs of study leading to the M.A. and Ph.D. degrees, although not presently offered, will be proposed in the future. Already religion may be chosen as a minor field in graduate study. To date, students have elected to minor in religion while engaged in an M.A. or Ph.D. program in such diverse fields as English, education, philosophy, sociology, dramatic art, library science, etc. One of the principal purposes of this minor is to furnish future teachers of sociology, education, philosophy, and the like with a context of study that will enable them to see the place of their field of interest from the perspective of a Judaic-Christian view of man, history, and society.

Courses for Undergraduates

26 INTRODUCTION TO RELIGION (3). An introduction to methods and theories appropriate to the study of religious phenomena followed by a representative survey of primitive, Oriental, and Western religions in their social and cultural settings. (Beginning 1967-1968.) *Fall and spring.* Peck.

28 THE ORIGIN AND SIGNIFICANCE OF THE BIBLE (3). *Fall and spring.* Boyd.

30 THE RELIGIOUS BACKGROUND OF WESTERN CIVILIZATION (3). Credit cannot be given for both 30 and 130. A historical study of the impact of the faith of the Old Testament, Graeco-Roman religion, Teutonic religion, and Christianity upon the life and thought of the Western world. *Spring.* Nash.

31 CANAANITE AND MESOPOTAMIAN BACKGROUNDS FOR BIBLICAL STUDY (3). A consideration of the cultural and religious milieu of the second millennium, B.C., as it sheds light on biblical origins. *Fall and spring.* Sasson.

32 THE VARIETIES OF RELIGION IN AMERICAN LIFE AND CULTURE (3). *Fall and spring.* Hill.

39 INTRODUCTION TO RELIGION AND ART (Art 39) (3). A study of the main types of religious art, the principal events and works in the interaction of art and religion in Western culture, and an examination of the religious significance of a variety of contemporary formal expressions, including popular art forms. *Fall and spring.* Dixon.

45 THE RELIGIONS OF THE WORLD (3). *Fall and spring.* Nash.

50 THE RELIGIOUS IMAGINATION IN THE ANCIENT WORLD (3). After an examination of the basic principles of the religious imagination, this course studies the several foundations of Western culture through its

imaginative manifestations in literature, art, and forms of worship. *Fall.* Dixon.

52 PHILOSOPHY OF RELIGION (Philosophy 52) (3). A philosophical inquiry into the problems of religious experience and belief, as expressed in philosophic, religious and literary documents from traditional and contemporary sources. *Fall and spring.* Staff.

60 PSYCHOLOGY OF RELIGION (3). A critical investigation of the religious consciousness in relation to such topics as mysticism, conversion, belief, and myth interpretation, conducted in the light of contributions from depth psychology, cultural anthropology, and theology. (Beginning 1967-1968.) *Fall and spring.* Peck.

75 RELIGIOUS THOUGHT IN THE TWENTIETH CENTURY (3). This course will be concerned with recent trends in religious thought as exhibited in thinkers like Reinhold Niebuhr, Jacques Maritain, Martin Buber, Paul Tillich, and William Temple. *Fall and spring.* Hill.

80 INTRODUCTION TO OLD TESTAMENT LITERATURE (3). *Fall.* Boyd.

81 INTRODUCTION TO NEW TESTAMENT LITERATURE (3). *Spring.* Boyd.

83 THE AGE OF THE PATRIARCHS (3). A study of the Middle and Late Bronze Ages in the biblical narrative as illuminated by recent discoveries at Ras Shamra, Mari, and Nuzi, based on the study of the Book of Genesis. *Fall and spring.* Sasson.

91 CHRISTIAN ETHICS AND MODERN PROBLEMS (3). *Spring.* Staff.

93 CHRISTIANITY AND THE INTERPRETATION OF HISTORY (3). *Spring.* Hill.

95 THE RELATIONS BETWEEN SCIENCE AND RELIGION (3). Prerequisite, Religion 28, or 30, or 45, or permission of the instructor. This course will be concerned with the mutual influence of natural science and religion upon each other in Western civilization from 1500 to the present day. *Fall.* Nash.

97 COURSES FOR HONORS (3 each semester). Required of all students
98 reading for honors in Religion. *Fall and spring.*

Courses for Graduates and Advanced Undergraduates

103 RELIGION AND HIGHER EDUCATION (3). Prerequisite, Religion 30, or 45, or special permission. This course will consist of a historical and comparative study of the relations between religion and higher education since the Reformation. *Spring.* Nash.

113 ELEMENTARY HEBREW (Linguistics 113-114) (3). *Fall and spring.*
114 Sasson.

121 THE BIBLICAL PERSPECTIVE (3). Prerequisite, Religion 28 and permission of the instructor. A systematic consideration of the central themes of the Bible, and the tension between the Biblical *Weltanschauung* and other world views. *Spring.* Boyd.

130 RELIGION AND CULTURE IN WESTERN CIVILIZATION (3). Prerequisites, Religion 28 (or 80) together with Religion 45. Not to be taken by students who have received credit for Religion 30. A study of the relations between the religions of the Western world (beginning with the dawn of

civilization in the ancient Near East) and the different cultural expressions which these religions have taken. *Spring.* Nash.

135 THE RELIGIOUS ELEMENT IN THE AMERICAN TRADITION (3). Prerequisite, Religion 32 or permission of the instructor. An analysis of the interaction of American religious institutions and concepts with dominant ideas, movements, and values in the American tradition. *Spring.* Hill.

138 RELIGION IN THE SOUTH (3). Prerequisite, Religion 32 or permission of the instructor. An inquiry into the history, sociology, and dominant ideological patterns of religion in the American South. The interaction of religion and the regional culture will be considered. Special attention will be given to the ways in which and reasons for which the major southern religious traditions diverge from classical and current developments elsewhere. *Fall.* Hill.

150 THE RELIGIOUS IMAGINATION IN THE MEDIEVAL AND MODERN WORLD (3). Prerequisite, Religion 50 or permission of the instructor. A study of the religious imagination in selected manifestations in literature, art, and types of worship, from the Middle Ages to the present. *Spring.* Dixon.

152 THE DEVELOPMENT OF MEDIEVAL PHILOSOPHY (Philosophy 152) (3). Selected philosophical topics from the writing of Augustine, Abelard, Thomas Aquinas, Duns Scotus, William of Ockham. To include: knowledge, universals, individuation, the theory of distinctions. Staff.

155 RELIGIOUS ART IN THE WEST (Art 155) (3). Prerequisite, Art 33 or permission of the instructor. A study of the origin of religious art in faith and the formal liturgy, and the impact of artistic development on the life and thought of religious institutions. *Spring.* Dixon.

170 SOCIOLOGY OF RELIGION (Sociology 170) (3). Prerequisites, Religion 32 or 45, and Anthropology 41 or Sociology 51. Analysis of tensions between the scientific, ethical and theological study of society; the role of religion in social change; the social origins of the denominations; the sociological significance of the Reformation; "sect" and "church" in sociological theory. *Fall and spring.* Nash, Lenski.

171 THE WORK OF THE DEUTERONOMISTS (3). Prerequisites, Religion 28 or Religion 80 and permission of the instructor. A study of the work of the Deuteronomists, their philosophy of history, their continuity with the prophetic movement, and their contributions to the development of Biblical thought. *Fall.* Boyd.

400 GENERAL REGISTRATION (0).

NEAR EASTERN ARCHAEOLOGICAL SEMINAR

The University of North Carolina is associated with the Institute for Mediterranean Studies, which sponsors the Near Eastern Archaeological Seminar in connection with its excavations in Palestine. Students who participate in this seminar will spend 8 weeks in the Middle East taking such courses as Biblical Archaeology, Historical Geography and Classical Hebrew. The program includes 3 weeks of actual digging at an ancient site in Palestine. Students will be given academic credit

provided they successfully complete the course program and submit the necessary transcript. For further details either contact Professor Bernard Boyd of the Department of Religion or write directly to The Institute for Mediterranean Studies, 1533 Shattuck Avenue, Berkeley, California, 94709.

DEPARTMENT OF ROMANCE LANGUAGES

Professors: JACQUES HARDRÉ, *Chairman and Director of Graduate Studies,* S. E. LEAVITT,[1] U. T. HOLMES, JR.,[2] N. B. ADAMS,[3] H. R. HUSE,[3] S. A. STOUDEMIRE, W. L. WILEY,[2] R. W. LINKER,[3] A. G. ENGSTROM,[4] J. E. KELLER, F. M. DUFFEY, G. L. RIZZO,[5] W. A. MCKNIGHT

Associate Professors: L. A. SHARPE, R. L. FRAUTSCHI, G. B. DANIEL, W. C. MCCRARY, W. J. DESUA, J. R. JONES, D. R. REEDY,[6] *Secretary,* F. W. VOGLER

Assistant Professors: A. G. LORÉ, *Director of Foreign Language Laboratory,* R. C. LACHARITÉ, R. T. PICKENS

Lecturers: CLAUDE BOUYGUES, LUCIA A. STADTER, VIRGINIA LACHARITÉ

Instructors: DANIEL RANGEL-GUERRERO

Visiting Professor: KESSEL SCHWARTZ

Visiting Assistant Professor: MARIE-CLAIRE PETIT

Part-time Instructors: JILL M. ABBOTT, DOUGLAS ALEXANDER, CAROLE L. ALMEIDA, DIANA L. APOSTOLIDES, J. M. BALLINTINE, A. N. BEICHMAN, FONTAINE M. BELFORD, S. M. BERGGRUN, J. M. BOHIGAS, KATE M. BOWERMAN, J. H. BROWN, SANDRA L. BROWN, LYNNE B. BRYAN, MOLLY ANN BULLARD, J. L. CAGIGAO, K. J. CARLSON, RACHELLE CHAIRMAN, J-J COURTEMANCHE, JUDITH R. CRANE, R. N. CREEL, W. E. CUNNINGHAM, HELEN P. DANIELL, D. H. DARST, W. R. DAVIS, N. T. DILL, JR., D. B. DRAKE, C. L. DUBS, ALEXANDER DUNLOP, ROBERT ECKART, W. M. EVANS, BARBARA J. FENIX, B. E. FITZ, A. G. FRALIN, THELMA K. GERDINE, C. W. GIDNEY, CAROL A. GORIN, ANNETTE GRANT, CONCETTA GREENFIELD, GEORGIA G. HOOKS, R. T. IVEY, W. W. JOHNSON, PAULINE H. JORDAN, W. W. KIBLER, PATRICIA A. KINGSLEY, L. M. KLEIN, SHARON J. KNIGHT, GISÈLE ANDRÉE LAMARQUE, P. J. LAUGHTON, J. W. LEWIS, MARY B. LOUD, JEAN M. MANN, E. D. MONTGOMERY, FRANCES W. MORGAN, R. J. MORRIS, R. T. MOUNT, I. M. MUÑOZ, MARGARET NEWHARD, H. M. OWEN, III, RUTH B. PAINE, GEORGIA PAPPANASTOS, C. O. PENNY, MICHAEL ROWLAND, D. R. RUTLEDGE, J. D. SANCHEZ, R. M. SANDARG, HILDA B. SAUNDERS, D. P. SCHENCK, J. M. SHARKEY, F. I. SHEETZ, P. S. SMITH, SUZANNE SNEDEGAR, J. B. STEANSON, MARY J. STEARNS, EDITH S. STEVENS, J. D. TAYLOR, J. D. TEDDER, NANCY M. THOMPSON, VIRGINIA G. TICE, W. E. WALTON, L. E. WOLFE, W. W. WOMBLE

Laboratory Instructors: PHILIPPE CLARET, BERTHA HOYOS, R. B. LUPTON, BETTY LUE MOSS, LUIS PEREIRA-REYES, DANIELE S. WEILER, MARIE-F. SAPIN, M. J. STEARNS

Teaching Fellows: H. A. GARRITY, P. C. GERDINE, ENRIQUE HOYOS

Research Assistants: R. E. ECKARD, J. W. RUTTER

FRENCH

Students interested in having a major in French will please consult Mr. Richard L. Frautschi.

1. Kenan Professor, Emeritus.
2. Kenan Professor.
3. Professor Emeritus.
4. Alumni Distinguished Professor of French.
5. Resigned August 31, 1966.
6. Absent on leave, fall 1966.

Those students who plan to teach in public high schools should see "School of Education" in Part III.

The course requirements of the A.B. degree with a major in French are as follows: eight courses, a minimum of three to be chosen from the language-civilization group (50, 51, 52, 53, 126, 145) and a minimum of three from the literature group (70-, 80-, and 100-numbered courses).

The department sponsors a Junior Year Abroad program in the University of Lyon in France. Those interested should consult the Director-in-Charge, Mr. Fred Vogler.

Courses for Undergraduates

1-2 ELEMENTARY FRENCH (6). *Five hours a week, through two semesters.* Daniel; staff.

Attention is called to French 14-15, designed for advanced students who have fulfilled the requirements in another foreign language.

3-4 INTERMEDIATE FRENCH[7] (6). *Five hours a week, through two semesters.* Daniel; staff.

14 BEGINNING COURSE FOR ADVANCED STUDENTS (3 each).
15 Elective. *Three hours a week, fall and spring.* Vogler; staff.

21 ADVANCED FRENCH (3). Sophomore elective. Masterpieces of French literature. *Any semester.* Engstrom, Daniel, Frautschi, La Charité, Vogler.

22 ADVANCED FRENCH (3). Sophomore elective. Contemporary French literature. *Any semester.* Wiley, Vogler.

40 INTERMEDIATE COMPOSITION, SYNTAX AND THEME WRITING (3). *Any semester.* Staff. Normally to be taken before French 50.

41 INTERMEDIATE CONVERSATION AND COMPOSITION (3). *Any semester.* Staff. Normally to be taken before French 51.

50 ADVANCED COMPOSITION, SYNTAX, AND THEME WRITING (3). Prerequisite, French 40 or permission of the Department. *Any semester.* Staff.

51 FRENCH CONVERSATION AND COMPOSITION (3). Prerequisite, French 50 or permission of the Department. *Any semester.* Daniel, Vogler.

52 FRENCH CIVILIZATION I (3). Prerequisite, French 51. *Fall and spring.* Hardré, Vogler.

53 FRENCH CIVILIZATION II (3). Prerequisite, French 52. French Revolution to the present. *Fall and spring.* Hardré, Vogler.

71 SURVEY OF FRENCH LITERATURE I (3). Prerequisite, French 21. Open to juniors and seniors. *Fall and spring.* Engstrom, Frautschi, La Charité.

72 SURVEY OF FRENCH LITERATURE II (3). This course is a continuation of French 71. Open to juniors and seniors. *Fall and spring.* Engstrom, Frautschi, La Charité.

73 SURVEY OF FRENCH LITERATURE III (3). This course is a continuation of French 72. A survey of contemporary literature from 1890 to 1950. Open to juniors and seniors. *Fall and spring.* Hardré.

7. Either of these courses may be taken separately for elective credit if the language requirements have already been satisfied.

80 MASTERPIECES OF FRENCH DRAMA (3). *Fall and spring.* Staff.

81 MASTERPIECES OF FRENCH POETRY (3). *Fall and spring.* Staff.

82 MASTERPIECES OF FRENCH PROSE (3). *Fall and spring.* Staff.

83 MATERIALS AND METHODS IN HIGH SCHOOL FRENCH AND SPANISH (Education 83f) (3). *Spring.* McKnight.

84 DIRECTED TEACHING OF HIGH SCHOOL FRENCH AND SPANISH (Education 84f) (3). *Any semester.*

97 HONORS SEMINAR (3). Studies in Masterpieces of French literature. Open to juniors and seniors; required of all students reading for honors in French.

Courses Without Credit for Graduate Students

101x ELEMENTARY FRENCH FOR GRADUATE STUDENTS (no credit).
102x These courses are designed for preparation for reading knowledge examination for higher degrees. Passing of the examination at the end of 102x will certify that this requirement has been satisfied. *Three hours a week, fall and spring.* Staff.

Courses for Graduates and Advanced Undergraduates

109 THE FRENCH NOVEL (3). Prerequisites, French 71, 72. *Spring.* Daniel.

120 FRENCH DRAMA OF THE TWENTIETH CENTURY (3). Prerequisites, French 71, 72, 73. (1967-1968 and alternate years.) *Spring.* Hardré.

126 HISTORY OF THE FRENCH LANGUAGE (3). Prerequisites, French 71, 72. *Spring.* Pickens.

131 THE FRENCH DRAMA PRIOR TO 1700 (3). Prerequisites, French 71, 72. *Fall.* Wiley, Daniel.

132 THE FRENCH DRAMA, 1700-1900 (3). Prerequisites, French 71, 72. *Spring.* Wiley.

145 FRENCH PHONETICS (3). Prerequisites, French 51, 52. *Fall.* Wiley, Daniel.

171 FRENCH LITERATURE OF THE SEVENTEENTH CENTURY I (3). Prerequisites, French 71, 72. *Fall.* Daniel.

172 FRENCH LITERATURE OF THE SEVENTEENTH CENTURY II (3). Prerequisites, French 71, 72. *Spring.* Vogler.

173 FRENCH LITERATURE OF THE SEVENTEENTH CENTURY III (3). Prerequisites, French 71, 72. *Spring.* Daniel, Vogler.

181 FRENCH LITERATURE OF THE EIGHTEENTH CENTURY I (3). Prerequisites, French 71, 72. *Fall.* Frautschi.

182 FRENCH LITERATURE OF THE EIGHTEENTH CENTURY II (3). Prerequisites, French 71, 72. *Spring.* Frautschi.

191 FRENCH ROMANTICISM (3). Prerequisites, French 71, 72. *Fall.* Engstrom.

192 FRENCH LITERATURE, 1850-1900 (3). Prerequisites, French 71, 72. *Spring.* Engstrom.

105 CELTIC: OLD IRISH (3). *On demand.* Holmes.

106 CELTIC: OLD WELSH (3). *On demand.* Holmes.

Courses for Graduates

201 BIBLIOGRAPHY AND METHODOLOGY (3). *Fall.*

210 PROSE WRITERS OF THE TWENTIETH CENTURY (3). (1968-1969 and alternate years.) *Spring.* Hardré.

211 LITERARY CRITICISM IN FRANCE: THE CLASSICAL PERIOD (3). (1967-1968 and alternate years.) *Spring.* Wiley.

212 LITERARY CRITICISM IN FRANCE: THE MODERN PERIOD (3). (1968-1969 and alternate years.) *Spring.* Engstrom.

216 FRENCH POETS OF THE TWENTIETH CENTURY (3). (1967-1968 and alternate years.) *Fall.* Hardré.

220 VULGAR LATIN (3). (1968-1969 and alternate years.) *Fall.* Holmes.

221 OLD FRENCH (6). *Fall and spring.* Holmes.
222

225 PROVENÇAL (3). (1967-1968 and alternate years.) *Spring.*

248 FRENCH LITERATURE OF THE FOURTEENTH AND FIFTEENTH CENTURIES (3). (1968-1969 and alternate years.) *Spring.*

265 FRENCH LITERATURE OF THE RENAISSANCE (3 each). *Fall and*
266 *spring.* Wiley.

281 THE EIGHTEENTH-CENTURY FRENCH NOVEL (3). Prerequisite, French 181 or French 182. *Spring of 1967-1968.* Frautschi.

282 VOLTAIRE/ROUSSEAU/DIDEROT: A PROSEMINAR (3). Prerequisite, French 181 or French 182. *Spring of 1968-1969.* Frautschi.

324 ROMANCE PALEOGRAPHY (3). (1968-1969 and alternate years.) *Fall.*

330-1 SEMINAR (3 or more). Malherbe and his Contemporaries, *fall,* 1966, Daniel;
330-2 Flaubert, *fall,* 1967, Engstrom; Le Nouveau Roman, *fall,* 1967, Falk; Racine, *spring,* 1968, Wiley; Proust, *fall,* 1968, Hardré; La Fontaine, *fall,* 1968, Daniels; Bossuet, La Rochefoucauld, La Bruyère, *spring,* 1969, Vogler.

331 THE HISTORY OF FRENCH LITERATURE PRIOR TO 1300 (3). (1967-1968 and alternate years.) *Fall.* Holmes.

340 SPECIAL READINGS (3 or more). Member of the graduate faculty.

370 MINOR ROMANCE TONGUES (3). (1967-1968 and alternate years.) *Spring.* Holmes.

393 MASTER'S THESIS (3 or more). Member of the graduate faculty.

394 DOCTORAL DISSERTATION (3). Research in a special field under the direction of a member of the graduate faculty.

400 GENERAL REGISTRATION (0).

ITALIAN

Courses for Undergraduates

1-2 ELEMENTARY ITALIAN (6). *Three hours a week, through two semesters.* DeSua; staff.

Attention is called to Italian 14-15, designed for advanced students who have fulfilled the requirements in another foreign language.

3-4 INTERMEDIATE ITALIAN (6). *Three hours a week, through two semesters.* DeSua; staff.

14 BEGINNING COURSE FOR ADVANCED STUDENTS (3 each).
15 Elective. *Three hours a week, fall and spring.* Staff.

50 ADVANCED COMPOSITION, SYNTAX AND THEME WRITING (3). Prerequisite, Intermediate Italian. *Fall.* Staff.

51 ITALIAN CONVERSATION AND COMPOSITION (3). Prerequisite, Intermediate Italian. *Spring.* Staff.

Courses for Graduates and Advanced Undergraduates

101 SURVEY OF ITALIAN LITERATURE I (3). Prerequisite, Italian 4 or 15. Open to advanced undergraduates and graduates. *Fall.* Stadter, DeSua.

102 SURVEY OF ITALIAN LITERATURE II (3). Prerequisite, Italian 4 or 15. Open to advanced undergraduates. *Spring.* DeSua.

131 DANTE I (3). Prerequisite, Italian 15 or equivalent. *Fall.* DeSua.

132 DANTE II (3). Prerequisite, Italian 131. *Spring.* DeSua.

156 DANTE IN ENGLISH TRANSLATION (Comparative Literature 156) (3). *Spring.* DeSua.

161 ITALIAN LITERATURE OF THE RENAISSANCE I (3). Prerequisite, Italian 101 or equivalent. (1968-1969 and alternate years.) *Fall.* Stadter.

162 ITALIAN LITERATURE OF THE RENAISSANCE II (3). Prerequisite, Italian 101 or equivalent. (1968-1969 and alternate years.) *Fall.* DeSua.

191 ITALIAN LITERATURE OF THE NINETEENTH CENTURY (3). Prerequisites, Italian 1-4, 21, or 14-15, 21, or equivalent. (1967-1968 and alternate years.) *Spring.* DeSua.

192 ITALIAN LITERATURE OF THE TWENTIETH CENTURY (3). Prerequisites, Italian 1-2-3-4-21, or 14-15, 21, or the equivalent. (1967-1968 and alternate years.) *Spring.* DeSua.

Courses for Graduates

221 OLD ITALIAN (3). (1968-1969 and alternate years.) *Fall.* Holmes.

245 THE ITALIAN TRECENTO: PETRARCH AND BOCCACCIO (3). (1968-1969 and alternate years.) *Spring.* DeSua.

330 SEMINAR (3 or more). Member of the graduate faculty.

340 SPECIAL READINGS (3 or more). Member of the graduate faculty.

393 MASTER'S THESIS (3 or more). Member of the graduate faculty.

394 DOCTORAL DISSERTATION (3). Research in a special field under the direction of a member of the graduate faculty.

400 GENERAL REGISTRATION (0).

PORTUGUESE

Courses for Undergraduates

1-2 ELEMENTARY PORTUGUESE (6). *Three hours a week, through two semesters.* Sharpe; staff.

Attention is called to Portuguese 14-15, designed for advanced students who have fulfilled the requirements in another foreign language.

3-4 INTERMEDIATE PORTUGUESE (6). *Three hours a week, through two semesters.* Sharpe; staff.

14 BEGINNING COURSE FOR ADVANCED STUDENTS (3 each). Elective.
15 *Three hours a week, fall and spring.* Sharpe; staff.

Courses for Graduates and Advanced Undergraduates

101 SURVEY OF PORTUGUESE LITERATURE (3). Prerequisite, Portuguese 15 or equivalent. *Fall.* Sharpe.

102 SURVEY OF BRAZILIAN LITERATURE (3). Prerequisite, Portuguese 15 or equivalent. *Spring.* Sharpe.

112 THE BRAZILIAN NOVEL (3). Prerequisite, Portuguese 15 or equivalent. (1967-1968 and alternate years.) *Spring.* Sharpe.

Courses for Graduates

221 OLD PORTUGUESE (3). (1968-1969 and alternate years.) *Fall.* Holmes.

330 SEMINAR (3 or more). Brazilian Drama. *Spring,* 1967.

340 SPECIAL READINGS (3 or more). Member of the graduate faculty.

393 MASTER'S THESIS (3 or more). Member of the graduate faculty.

394 DOCTORAL DISSERTATION (3). Research in a special field under the direction of a member of the graduate faculty.

400 GENERAL REGISTRATION (0).

SPANISH

Students interested in having a major in Spanish will please consult Mr. Sterling Stoudemire.

Those students who plan to teach in public high schools should see "School of Education" in Part III.

The course requirements for the A.B. degree with a major in Spanish are as follows: eight courses, a minimum of three to be chosen from the language-civilization group (50, 51, 52, 53, 126, 145) and a minimum of three from the literature group (70-, 80-, and 100-numbered courses).

Courses for Undergraduates

1-2 ELEMENTARY SPANISH (6). *Five hours a week, through two semesters.* McCrary; staff.

Attention is called to Spanish 14-15, designed for advanced students who have fulfilled the requirements in another foreign language.

3-4 INTERMEDIATE SPANISH[8] (6). *Five hours a week, through two semesters.* McCrary; staff.

14 BEGINNING COURSE FOR ADVANCED STUDENTS (3 each). Elective.
15 *Three hours a week, fall and spring.* Stoudemire, McKnight, Jones.

21 ADVANCED SPANISH (3). Sophomore elective. Masterpieces of Spanish literature. *Any semester.* Stoudemire, McKnight, Sharpe, McCrary.

8. Either of these courses may be taken for elective credit if the language requirement has already been satisfied.

22 ADVANCED SPANISH (3). Sophomore elective. Contemporary Hispanic Literature. *Any semester.* Stoudemire, McKnight.

40 INTERMEDIATE COMPOSITION, SYNTAX, AND THEME WRITING (3). *Any semester.* Staff. Normally to be taken before Spanish 50.

41 INTERMEDIATE CONVERSATION AND COMPOSITION (3). *Any semester.* Staff. Normally to be taken before Spanish 51.

50 ADVANCED COMPOSITION, SYNTAX, AND THEME WRITING (3). Prerequisite, Spanish 40 or permission of Department. *Fall and spring.* Stoudemire, McKnight, Jones.

51 SPANISH CONVERSATION AND COMPOSITION (3). Prerequisite, Spanish 41, or permission of Department. *Any semester.* Duffey, Reedy, McCrary.

52 SPANISH CIVILIZATION (3). Prerequisite, Spanish 51. *Fall and spring.* Duffey, Reedy, Jones.

53 SPANISH AMERICAN CIVILIZATION (3). Prerequisite, Spanish 51. A survey in Spanish of the history and culture of Spanish America. *Fall.* Duffey, Reedy.

71 SURVEY OF SPANISH LITERATURE TO 1700 (3). Prerequisite, Spanish 21. Open to juniors and seniors. *Fall.* Stoudemire, McKnight, Jones, McCrary.

72 SURVEY OF SPANISH LITERATURE SINCE 1700 (3). This course is a continuation of Spanish 71. Open to juniors and seniors. *Spring.* Stoudemire, McKnight, Reedy.

73 SPANISH AMERICAN PROSE (3). Prerequisite, Intermediate Spanish. *Spring.* Reedy.

80 MASTERPIECES OF SPANISH DRAMA (3). *Fall.* McCrary.

81 MASTERPIECES OF SPANISH POETRY (3). *Fall.*

82 MASTERPIECES OF SPANISH PROSE (3). *Spring.*

83 MATERIALS AND METHODS IN HIGH SCHOOL FRENCH AND SPANISH (Education 83s) (3). *Spring.* McKnight.

84 DIRECTED TEACHING OF HIGH SCHOOL FRENCH AND SPANISH (Education 84s) (3). *Any semester.* McKnight.

97 HONORS COURSE (3). Required of all students reading for honors in Spanish.

Courses Without Credit for Graduate Students

101x ELEMENTARY SPANISH FOR GRADUATE STUDENTS (no credit).
102x These courses are designed for preparation for reading knowledge examination for higher degrees. Passing of the examination at the end of 102x will certify that this requirement has been satisfied. *Three hours a week, fall and spring.* Staff.

Courses for Graduates and Advanced Undergraduates

109 EARLY SPANISH BRIEF FICTION (3). Prerequisites, Spanish 71, 72 (1968-1969 and alternate years.) *Fall.*

110 THE SPANISH NOVEL, 1605-1898 (3). Prerequisites, Spanish 71, 72. (1968-1969 and alternate years.) *Fall.*

111 MODERN SPANISH NOVELISTS (3). Prerequisites, Spanish 71, 72. (1966-1967 and alternate years.) *Spring.*

113 COLONIAL AND NINETEENTH CENTURY SPANISH AMERICAN LITERATURE (3). Prerequisites, Spanish 71, 72. *Fall.* Sharpe.

114 MODERNIST AND CONTEMPORARY SPANISH AMERICAN LITERATURE (3). Prerequisites, Spanish 71, 72. *Spring.*

117 CERVANTES (3). Prerequisites, Spanish 71, 72. *Spring.* Stoudemire.

126 HISTORY OF THE SPANISH LANGUAGE (3). Prerequisite, Spanish 71, 72. *Spring.*

131 LOPE DE VEGA AND HIS CONTEMPORARIES (3). Prerequisites, Spanish 71, 72. *Fall.* McCrary.

132 CALDERON AND HIS CONTEMPORARIES (3). Prerequisites, Spanish 71, 72. *Spring.* McCrary.

134 SPANISH DRAMA OF THE NINETEENTH CENTURY (3). Prerequisites, Spanish 71, 72. (1968-1969 and alternate years.) *Spring.* Stoudemire.

135 MODERN SPANISH DRAMA (3). Prerequisites, Spanish 71, 72. (1967-1968 and alternate years.) *Spring.* Stoudemire, McKnight.

145 SPANISH PHONETICS (3). Prerequisites, Spanish 51, 52. *Fall.* Duffey.

Courses for Graduates

201 BIBLIOGRAPHY AND METHODOLOGY (3). *Fall.* Stoudemire.

209 NON-FICTION PROSE OF THE SIXTEENTH AND SEVENTEENTH CENTURIES (3). (1967-1968 and alternate years.) *Spring.* Stoudemire.

212 THE NOVEL IN SPANISH AMERICA (3). Prerequisites, Spanish 113, 114. (1967-1968 and alternate years.) *Spring.* Sharpe.

213 CONTEMPORARY SPANISH AMERICAN PROSE (3). (1968-1969 and alternate years.) *Fall.*

215 EARLY LYRIC POETRY (3). (1967-1968 and alternate years.) *Fall.*

216 MODERN LYRIC POETRY (3). (1967-1968 and alternate years.) *Spring.*

217 SPANISH AMERICAN POETRY (3). Prerequisites, Spanish 113, 114. (1966-1967 and alternate years.) *Spring.* Reedy.

218 THE SPANISH BALLAD (3). (1967-1968 and alternate years.) *Fall.*

221 OLD SPANISH (6). *Fall and spring.* Keller.
222

231a STUDIES IN THE GOLDEN AGE THEATER (3). Prerequisites, Spanish 131-132. *Spring of 1967.* McCrary.

231b STUDIES IN THE GOLDEN AGE THEATER (3). Prerequisites, Spanish 131-132. *Spring of 1968.*

231c STUDIES IN THE GOLDEN AGE THEATER (3). Prerequisites, Spanish 131-132. *Spring of 1969.*

241 SPANISH-AMERICAN BIBLIOGRAPHY (3). (1968-1969 and alternate years.) *Spring.* Reedy, Sharpe.

291 EARLY SPANISH MEDIEVAL LITERATURE (3). *Fall.* Keller.

292 LATE MEDIEVAL SPANISH LITERATURE (3). *Spring.* Keller.

330 SEMINAR IN SPANISH LITERATURE (3 or more). Alfonso the Learned, *fall,* 1966; Keller. Cervantes, *spring,* 1967; Stoudemire. Eighteenth-Century Drama, *spring,* 1968; Stoudemire.

335 SEMINAR IN SPANISH AMERICAN LITERATURE (3). Staff.

340 SPECIAL READINGS (3 or more). Member of the graduate faculty.

393 MASTER'S THESIS (3 or more). Member of the graduate faculty.

394 DOCTORAL DISSERTATION (3). Research in a special field under the direction of a member of the graduate faculty.

400 GENERAL REGISTRATION (0).

SEMITICS

Courses for Graduates and Advanced Undergraduates

101 ELEMENTARY ARABIC (Linguistics 101) (3). Presentation of Arabic as a Semitic language. Study of the morphology and basic syntax of Arabic. *Fall.*

102 READING IN ARABIC (Linguistics 102) (3). Study of Arabic syntax; selected readings from the Koran and prose literature of the tenth century. Arabic influence of early Spanish. *Spring.*

110 MODERN LITERARY ARABIC (Linguistics 110) (3). Readings and analysis of modern literary Arabic. Special attention will be given to the Arabic daily press. *Fall.*

111 ARABIC RENAISSANCE (Linguistics 111) (3). Selected readings from the prose literature of the modern Arabic Renaissance. Introduction to Arabic poetry. *Spring.*

113 ELEMENTARY HEBREW (Linguistics 113-114) (Religion 113-114) (3).
114 The structure and basic vocabulary of the Hebrew language. A standard textbook will be supplemented by selected prose readings from the Old Testament. *Fall and spring.*

Courses for Graduates

201 SURVEY OF THE CULTURE AND LITERATURE OF MOSLEM SPAIN (3). Prerequisites, Arabic 101-102, 110-111. (1968-1969 and alternate years.)

331 SEMINAR IN HISPANO-ARABIC STUDIES (3). Prerequisites, Arabic 101-102, 110-111. (1967-1968 and alternate years.) *Spring.*

400 GENERAL REGISTRATION (0).

RUSSIAN

(See Linguistics)

DEPARTMENT OF SOCIOLOGY

Professors: C. E. BOWERMAN, *Chairman*, H. D. MEYER,[1] S. H. HOBBS, JR., R. B. VANCE,[2] G. B. JOHNSON,[2] K. JOCHER,[3] L. M. BROOKS,[3] W. B. SANDERS,[3] H. L. HERRING,[3] H. L. SMITH, G. E. LENSKI,[4] R. N. WILSON, H. M. BLALOCK,[5] R. L. SIMPSON, A. H. HAWLEY

Associate Professors: H. D. SESSOMS,[4] J. R. UDRY, W. A. SEDELOW, JR.

Assistant Professors: J. H. THRASHER, M. R. CRAMER, H. POPE, B. K. ECKLAND,[4] E. W. BUTLER, J. A. WIGGINS, T. A. STEIN, N. K. NAMBOODIRI, L. F. CARTER

Instructors: M. E. FORTUNE, M. J. CUMMINS, R. M. BLUM, D. P. ELLIS, R. E. DRASS

Part-time Instructors: L. G. CARR, L. R. CURTIS, JR., C. K. LOFTIN, M. O. ROUSSEAU, M. C. THOMAS, H. P. WHITT

Teaching Fellow: C. F. LONGINO

Teaching Assistants: P. KAWESCH, C. K. JACOBSON, D. J. SELO, N. J. STOPPIELLO, A. A. TALBOTT III, B. A. TANNER, J. C. WHEELER

Research Assistants: J. E. ARNDT, B. W. ALDRICH, L. FLEMING, G. S. FLINK, R. SCHENK, J. SPRAGUE, C. WELLS

The undergraduate major program in Sociology is designed to provide pre-professional training in the social sciences as well as a mature understanding of social behavior as a basis for general education. With the assistance of his adviser in the Department, the student may elect a course of study to provide a foundation for a variety of occupations.

UNDERGRADUATE MAJOR: Sociology 51, preferably taken in the sophomore year to meet General College requirements, is required of all majors in Sociology. Majors[6] will plan their courses, with the help of an adviser, according to the following schedule:

SOCIOLOGY: Sociology 56 and seven other courses in sociology (of which at least three must be selected from among Sociology 75, 133, 134, 152, 153, 168, 186, 191), seven allied courses, five non-divisional courses.

HONORS IN SOCIOLOGY: Students with a grade average of *B* or better are encouraged to apply for admission to candidacy for a degree with honors. This should be done not later than the junior year. The honors program emphasizes small seminar discussions and independent research under the guidance of faculty members. The aim of the honors program is to free the serious and qualified student from some of the restrictions of the usual undergraduate course format, so as to maximize the opportunity for critical analysis and independent study. Sociology 51A is open for superior students with permission from the instructor.

Detailed information on the honors program can be obtained from the Department Honors Chairman, Professor Richard Cramer. Mimeographed descriptions are also available in the Department Office.

1. Taylor Grandy Professor, Emeritus.
2. Kenan Professor.
3. Professor Emeritus.
4. Absent on leave, 1966-1967.
5. Absent on leave, spring semester 1967.
6. Students must make a *C* or better in introductory sociology (Sociology 51) to major. Sociology 52 is not creditable within the eight-course major in sociology.

RECREATION: Sociology 56, five courses in Recreation Administration including 73, 174 and two additional courses in sociology.

GRADUATE DEGREES: The A.M. and Ph.D. degrees are offered in sociology. It is the purpose of the graduate program to provide professional training for sociologists and, in conjunction with the Department of Psychology, for social psychologists. Candidates for the A.M. or Ph.D. degree in sociology may minor in any of the other social sciences, or in the related fields of statistics, mathematics, planning, public health, and social work. A minor split between two fields is possible for the Ph.D. degree with special permission of the Graduate School. The Master of Science degree is offered for students specializing in Recreation Administration (see further description at end of this section under "Recreation Administration").

More detailed information about the graduate program in sociology is available in the Graduate School Catalogue and in mimeographed materials available from the Department.

Courses in Recreation Administration are grouped separately following the courses in Sociology. These courses will carry the designation "Recreation Administration" on registration forms.

SOCIOLOGY

Unless specifically indicated, Sociology 51 is not prerequisite for the other sociology courses.

Courses for Undergraduates

51 INTRODUCTION TO SOCIOLOGY (3). Juniors and seniors should take Sociology 151. An introduction to the structure, functioning, and development of human societies, with special attention to modern industrial societies in general and American society in particular. *Fall and spring.* Staff.

52 SOCIAL PROBLEMS (3). Elective for students not majoring in Sociology. A sociological analysis of aspects of American culture and institutions that are the source of contemporary social problems such as race relations, crime, mental illness, poverty, the aged, etc. *Fall and spring.* Staff.

54 LITERATURE AND SOCIETY (3). An examination of selected modern literary works as social process and aesthetic object. Topics discussed will include literary creativity, the writer's social role, and social psychological approaches to the content of literature. (1967-1968 and alternate years.) *Fall.* Wilson.

56 RESEARCH METHODS IN SOCIOLOGY (4). Techniques of social research, with an emphasis on survey design; attitude measurement; collection, analysis, and interpretation of data. Required of sociology majors, preferably in the junior year. Lecture plus laboratory. *Fall and spring.* Staff.

57A RESEARCH PLANNING AND DESIGN (2). Permission of instructor. Supervised research planning, including background reading to delimit the area of investigation, and development of the research design, data-collection instruments, and plans for analysis. *Spring.* Cramer.

60 THE FIELD OF SOCIAL WORK (3). An orientation course based on the description and analysis of the historical development of social work and the operation in contemporary society of the many specialized social work services. *Fall.* Staff.

62 MARRIAGE AND THE FAMILY (3). Open to General College students, juniors, and seniors. (No credit for students who have had Sociology 161.) Analysis of courtship, marriage, and family relationships. *Fall and spring.* Staff.

65 THE PUBLIC SOCIAL SERVICES (3). An analysis of the social services which are offered under public auspices through city, county, state and federal agencies. *Spring.* Staff.

70 INDUSTRIAL SOCIOLOGY (3). The place of sociology in the study of industrial relations. The application of social scientific principles to the analysis of social relationships in business, with special emphasis on industrial firms. *Fall and spring.* Drass.

75 COMMUNITY CONFLICT AND PUBLIC POLICY (3). Prerequisite, Sociology 51 or Political Science 41. An analysis of intergroup relations in American communities with special reference to struggles for control of public policy. Special attention is given to modern criticisms of the feasibility of democratic government in the modern metropolitan community. *Fall and spring.* Lenski.

91 ADVANCED RESEARCH METHODS AND INDEPENDENT STUDY (3). Permission of instructor. Supervised research participation, data analysis, and interpretation of results. *Summer.* Cramer.

95 UNDERGRADUATE SEMINAR (3). Open to honors candidates and to others by special permission. A detailed examination of selected topics in the field of sociology and a critical analysis of pertinent theories. *Fall.* Cramer.

96 HONORS RESEARCH (3). Required for senior honors candidates. Special research in a selected field under the direction of a member of the Department. *Spring.* Staff.

101 NORTH CAROLINA: ECONOMIC AND SOCIAL (3). This course is designed to familiarize the student with North Carolina: population, agriculture, resources, social life, economic development, industry, wealth, taxation, education, public welfare. (Not offered in 1967-1968.) *Fall.* Hobbs.

103 INFORMATION SYSTEMS IN HUMANISTIC AND SOCIAL SCIENCE RESEARCH (Information Science 103) (3). (See Information Science 103 for description.) *Fall.* Sedelow.

104 PUBLIC OPINION AND POLITICAL PARTICIPATION (Political Science 170) (3). (See Political Science 170 for description.) *Fall.* Prothro.

105 SOCIOLOGY OF SCIENCE (3). Prerequisite, Sociology 51 or 151. Social roles of science, past and present: including conditions of emergence and support; interaction with other social institutions such as educational, religious, governmental; relations to technology; contribution to social change. Internal structure: including recruitment, social characteristics, values, and enculturation of scientists: process of information-flow, influence, and leadership selection; organizational patterns and administrative roles in relation to quality and productivity, decision-making, public image, and national scientific policy. *Fall.* Sedelow.

107 PHILOSOPHY, HISTORY AND THE SOCIAL SCIENCES (Philosophy 107) (3). Prerequisites, two courses in philosophy, psychology, or sociology. (See Philosophy 107 for description.) *Fall.* Zaffron.

121 CULTURE AND PERSONALITY (Anthropology 121) (3). (See Anthropology 121 for description.) *Spring.* Honigmann.

122 CULTURAL ANTHROPOLOGY (Anthropology 122) (Folklore 122) (3). (See Anthropology 122 for description.) *Fall.* Johnson.

125 THE NEGRO (3). A study of the Negro community and its institutions, status of the Negro in American society, problems of race relations, and the process of integration. *Fall and spring.* Staff.

133 INTRODUCTION TO SOCIAL PSYCHOLOGY (3). Prerequisite, Sociology 51 or permission of instructor. Examination of social systems from various points of view, stressing interpersonal relations and representative methods of observation, experiment, and analysis. No credit for students who have had Psychology 133. *Fall and spring.* Staff.

134 COLLECTIVE BEHAVIOR (Psychology 134) (3). Prerequisite, Sociology 51 or 133. A study of those forms of social behavior that break with existing patterns and expectations, such as riots, panics, crazes, and incipient social movements. Emphasis is placed on understanding these unexpected behaviors by use of the same principles that govern human behavior in general. *Fall and spring.* Pope.

136 COMPARATIVE SOCIAL ORGANIZATION (Anthropology 136) (3). (See Anthropology 136 for description.) *Fall.* Gulick.

149 SOCIAL ORGANIZATION IN INDIA (Anthropology 149) (3). Intensive coverage of Indian social organization. *Fall.* Namboodiri.

151 CONTEMPORARY SOCIETY (3). Open to juniors, seniors, and non-departmental graduate students who have not taken introductory sociology. Equivalent to Sociology 51 in satisfying prerequisites for other sociology courses and in meeting General College requirements. An introduction to the basic sociological concepts and a review of current empirical descriptions of American society. Emphasis is given to the various sociological analyses of the contemporary American scene. *Fall and spring.* Staff.

152 HISTORY OF SOCIAL THOUGHT (3). Prerequisite, introductory course in one of the social sciences or philosophy. Emphasis on historic social ideas of western culture considered against a background of general cultural analysis in terms of systematic theory. *Fall.* Vance.

153 SOCIAL STRUCTURE (3). Prerequisite, Sociology 51. Analysis of social structure and stratification in terms of class, status, prestige, rank, and function. Attention is given to the social role of the elite, bureaucracies, and professional and middle classes. *Fall and spring.* Vance.

155 SOCIOLOGY OF EDUCATION (3). Prerequisite, Sociology 51. A study of theory and research on the educational institution, with emphasis upon the multiple and changing functions of formal education in industrial societies. *Fall.* Eckland.

161 SOCIOLOGY OF THE FAMILY (3). Prerequisite, Sociology 51 (Sociology 56 recommended). Description and analysis of the family and its interrelations with other institutions. Open only to sociology majors who have not had Sociology 62 and graduate students not majoring in Sociology. *Fall and spring.* Staff.

162 DYNAMICS OF FAMILY DEVELOPMENT (3). Prerequisite, Sociology or Psychology 133. Analysis of the natural history of families, how they form, function, and grow to maturity. Focus on the developmental growth of children and parents in interaction in seven stages of the family cycle. *Spring.* Elder.

165 COMMUNICATION AND OPINION (Journalism 165) (Psychology 165) (3). (See Journalism 165 for description.) *Spring.* Danielson.

166 THE SOCIOLOGY OF LANGUAGE (3). An introduction to research problems and methods in sociolinguistics, prefaced by a review of studies of the functions of language in society. Topics include the reciprocal relations of language behavior with identification processes and macro-group formation (e.g., nation-states and ethnic groups), social control, stratification, mobility and the division of labor, and with perception and values, science and education, and socialization, acculturation, and social change. (1967-1968 and alternate years.) *Spring.* Sedelow.

168 THE CITY (3). Prerequisite, Sociology 51. The city as a social phenomenon in the modern world. Analysis of urban trends, characteristics, functions, and social organization. Distinction is made in the study of the city as a dependent variable and as a setting for social behavior. *Fall and spring.* Staff.

169 THE INDUSTRIAL COMMUNITY (3). Development of the industrial community since the Industrial Revolution; effect of changing conditions and differences in surrounding society; paternalism, labor laws, economic and labor problems as they affect the industrial community. *Fall.* Drass.

170 SOCIOLOGY OF RELIGION (Religion 170) (3). (See Religion 170 for description.) *Spring.* Nash.

181 REGIONAL SOCIOLOGY OF THE SOUTH (3). A sociological analysis of the southern region of the United States. Emphasis on facts, factors, and policies pertaining to geography, population, and culture; resources and waste; social institutions and planning. *Spring.* Vance.

186 POPULATION (3). Prerequisite, Sociology 51. A study of problems of quality and quantity of population including theories of population increase and problems of composition, distribution, differential fertility, population pressure, and internal migration. *Fall and spring.* Staff.

187 MIGRATION AND POPULATION DISTRIBUTION (3). Prerequisite, Sociology 186. Treats migration trends, patterns and differentials and their effects on population distribution in continental and regional areas. Attention is given to theoretical and methodological problems in the study of population movement. *Spring.* Hawley.

188 SMALL GROUPS (Psychology 188) (3). (See Psychology 188 for description.) *Fall.* Schopler.

189 SOCIO-ECONOMIC FACTORS IN FERTILITY (3). Prerequisite, Sociology 186. Trends in fertility of various cultures and societies will be examined. Fertility differentials by social class, education, occupation, income, religion, color, etc., will be studied as well as the interrelationships and the manner in which these factors affect fertility. Various measures of fertility, efforts to relate birth rates to long range population growth, and population control programs will be studied. *Fall.* Namboodiri.

190 CRIME AND DELINQUENCY (3). Prerequisite, Sociology 51. The nature and extent of crime and delinquency; emphasis upon contemporary theories of causation; examination of correctional programs. *Fall and spring.* Eckland.

191A SOCIAL STATISTICS (Planning 191A) (Political Science 194A) (3). Does not give credit toward a minor program for the A.M. Elementary descriptive statistics and basic principles of statistical inference including estimation and tests of hypotheses. Required of all candidates for graduate degrees in sociology. *Fall.* Staff.

195 INTERMEDIATE SOCIAL STATISTICS (Political Science 195) (3). Prerequisite, Sociology 191 or equivalent. Basic analysis of variance; correlation analysis, including multiple and partial; non-parametric measures of relationships; statistical inference. *Spring.* Blalock.

197 POPULATION STATISTICS (Statistics 197) (3). Training and techniques for quantitative research with population data; composition characteristics, making of population estimates, computation and standardization of birth and death rates. Construction and application of life tables, measurement of migration. *Spring.* Namboodiri.

204 COMPUTER APPLICATIONS TO SOCIAL SCIENCE (Political Science 204) (3). (See Political Science 204 for description.) *Fall.* Lind.

208 METHODS IN SOCIAL RESEARCH (3). Formulation of the research problem; steps and problems in the design of social research; methods of data collection; analysis and interpretation of data. *Spring.* Staff.

209 THEORY BUILDING AND CAUSAL INFERENCES (3). Prerequisite, Sociology 195 or equivalent. Focus on the building and testing of theories, using a causal models approach. Axiomatic theories; simultaneous-equation approaches; conceptualization of measurement process; implications for design and analysis of measurement errors, nonadditivity, and other complicating factors; formulation of dynamic theories and analysis of change data. *Fall.* Blalock.

210 SOCIETAL EVOLUTION (3). Prerequisite, graduate standing in sociology or permission of instructor. An introduction to the theory of societal evolution and relevant research. *Fall.* Lenski.

215 HISTORICAL SOCIOLOGY (3). Prerequisite, permission of instructor. Testing of select, current sociological propositions against historical data. Explorations of the relations between historians' and sociologists' interpretations and theories as to varying criteria of reliability, validation, and significance. Examination and formulation of statements reflecting both historical and sociological requirements for adequacy. Specific topics to be dealt with will vary from year to year depending on special interests and experience of students. (1966-1967 and alternate years.) *Spring.* Sedelow.

218 HUMAN ECOLOGY (Seminar) (3). Consideration of theory and research emerging around the concept of human ecology. A review of the background of human ecology is followed by reading, reports and research on its contemporary development. (Not offered in 1967-1968.) *Spring.* Hawley.

223 SOCIAL ATTITUDES (3). Prerequisite, Sociology 241 or permission of instructor. An analysis of interpersonal attitudes using the methods of survey and experimental research. Areas possibly investigated include prejudice, international images, educational and occupational aspirations, psychological warfare, religious and political attitudes, as well as various general theories of attitude formation, change, and measurement. Student will design and pretest an empirical study. *Spring.* Cramer.

225 THEORY AND METHODS IN THE STUDY OF RACE RELATIONS (3). Course stresses problems of theory building and methodology in race relations. Focus primarily on race relations in the U.S., with special attention to the Negro. Previous courses in race relations and research methods advised but not required. (1966-1967 and alternate years.) *Spring.* Cramer.

227 THEORIES OF PERSONALITY (Psychology 227) (3). (See Psychology 227 for description.) *Fall.* Welsh.

228 ADVANCED SOCIAL PSYCHOLOGY (Psychology 228) (3). (See Psychology 228 for description and prerequisites.) *Spring.* Thibaut.

229 SOCIAL STRUCTURE AND PERSONALITY (3). Prerequisites, Sociology 241 or permission of instructor. Examines the generic processes by which individuals become members of a particular group or society. Briefly considers the historical development of interest in socialization, formulations of socialization and their relationships to general theoretical approaches, conceptions of personality and the biological bases of behavior. Influences of social structure and culture upon socialization and the patterning of personality through life cycle. *Fall.* Elder.

230 CULTURE CONTACTS AND ACCULTURATION (Anthropology 230) (Folklore 230) (3). (See Anthropology 230 for description.) *Spring.* Johnson.

233 METHODS OF SOCIAL PSYCHOLOGY (Psychology 233) (3). (See Psychology 233 for description.) *Spring or fall as announced.* Insko.

235 MEASUREMENT OF ATTITUDES (Psychology 235) (3). (See Psychology 235 for description.) *On demand.*

239 ADVANCED INDUSTRIAL SOCIOLOGY (3). Social theory and productive systems; the meaning and organization of work; the dynamics of getting work done; management of work organization; the social structure of trade unionism; work organizations and society. *Fall.* Staff.

241 HISTORY AND THEORY OF SOCIAL PSYCHOLOGY (3). Permission of instructor. A general review of the history of the field, followed by systematic assessment of modern theoretical developments and empirical research. *Fall.* Wiggins.

245 SOCIOLOGY OF ORGANIZATIONS (3). Structural features of organizations. Behavior in organizations. Organizational career patterns. Comparative analysis of structure, behavior, and careers in different types of organizations. Interorganization and organization-environment relations. *Fall.* Simpson.

252 SOCIAL CHANGE AND DISORGANIZATION (3). Discussion of the development of urban-industrial societies, particularly the United States, and the resulting social problems—such as poverty and family disorganization. Discussion of theoretical issues in the explanation of change and its social consequences. *Spring.* Pope.

253 EXPERIMENTAL DESIGN IN SOCIOLOGY (3). Prerequisite, Sociology 195 or equivalent. Statistical aspects of experimental designs with emphasis on applied problems involved in executing a statistically sound design. (1966-1967 and alternate years.) *Spring.* Namboodiri.

254 SURVEY SAMPLING (3). Prerequisite, Sociology 195 or equivalent. The different sampling techniques are discussed. Major emphasis on planning of large scale sample surveys rather than on statistical theory. (1966-1967 and alternate years.) *Spring.* Namboodiri.

262 CONTEMPORARY SOCIOLOGICAL THEORY (3). Theory in sociological research. Major methodological and theoretical orientations. Current theories of interaction, differentiation, integration, change, and structural-functional analysis. Main focus is on current theoretical problem areas rather than on chronology of theoretical development. Required of all Ph.D. candidates in sociology. *Spring.* Simpson.

265 THE SOCIOLOGY OF HEALTH AND HEALTH PROFESSIONS (3). Registration by permission of the instructor. Reviews the work done in the area

of convergent interests of the medical and social sciences with emphasis on further research. *Fall.* Smith.

267 SOCIAL CONFLICT AND COOPERATION (3). Prerequisite, Sociology 241 or permission of instructor. Explanations of alternative choices of aggressive and cooperative means of achieving ends in a variety of non-zero sum and zero-sum social situations. Empirical sociological generalizations are taken as givens and are deduced from more general social psychological propositions stemming from exchange theory. Substantive areas include war, peace, industrial strikes, collective bargaining, divorce, disarmament, etc. *Fall.* Ellis.

269 EXPERIMENTAL ANALYSIS OF INTERPERSONAL BEHAVIOR (3). Prerequisite, Sociology 241 or permission of instructor. An analysis of social behavior from the perspective of two experimental methods: "Intergroup, randomization method" of small groups research and "intragroup, replication method" of operant research. An evaluation of selected experiments using these techniques pertaining to areas of communication, influence, cohesion, productivity, conformity, reward distribution, etc. Student will design and pretest an experiment using one of the methods. *Spring.* Wiggins.

274 SEMINAR IN URBAN SOCIOLOGY (3). Prerequisite, Sociology 168. Course stresses theory and research in the study of the location and growth of urban areas, the effect urban areas have upon behavior, and the study of social behavior in differential urban subareas. Each member of the seminar will complete a project interrelating theory and research. *Fall.* Butler.

290 SEMINAR IN CRIMINOLOGY (3). Prerequisite, Sociology 190 or permission of instructor. Review of basic theoretical approaches and evaluation of current research into the causes and treatment of crime and delinquency. *Spring.* Eckland.

301 READING AND RESEARCH (3 each semester). Registration by permission
302 of instructor. Advanced reading. Library research or field research on a selected topic under guidance of the instructor. *Fall and spring.* Staff.

310 SEMINAR IN SOCIAL STRATIFICATION (3). Analysis of major theories of social stratification with special attention to modern trends toward convergence. *Spring.* Lenski.

311 SEMINAR IN SOCIAL POWER (3). (Recommended: Sociology 209.) Focus on both social psychological and sociological theories of power, with an emphasis on theory building and conceptualization. Discussion of propositions and their testability. *Spring.* Blalock.

313 SEMINAR IN SOCIAL STRUCTURE (3). Prerequisite, Sociology 153 or equivalent. An analysis of social structure at an advanced level. Each member of the seminar will develop research findings and critical bibliography together with a substantive report for his chosen area. (Not offered in 1966-1967.) *Fall.* Vance.

314 SEMINAR IN SOCIAL CONTROL AND DEVIANCE (3). Registration by permission of the instructor. The relation of social norms to conforming and deviant behavior. Types of social and personal controls. Theoretical and research problems are reviewed. *Spring.* Carter.

315 READING AND RESEARCH IN METHODOLOGY (3 each semester).
316 Registration by permission of the instructor. Special work on selected problems of research methodology. *Fall and spring.* Staff.

321 FIELD RESEARCH (3 each semester). Registration by permission of the
322 instructor. *Fall and spring.* Staff.

326 SEMINAR IN SELECTED TOPICS (3 each semester). Registration by
327 permission of instructor. *Fall and spring.* Staff.

328 SEMINAR IN SOCIAL PSYCHOLOGY (Psychology 328) (3). See Psychology 328 for description.) *Either semester, as announced.* Staff.

329 SEMINAR IN SOCIALIZATION AND GROUP PROCESS (3). Prerequisites, Sociology 241 or equivalent and permission of the instructor. Analysis of theoretical issues and empirical research relevant to socialization. Special emphasis upon group process effects on the evolution of the social self, the "fit" between personality and role, and other issues. (Not offered in 1967-1968.) *Spring.* Elder.

333 SEMINAR IN MARRIAGE AND THE FAMILY (3). *Fall.* Staff.

334 CRITIQUE OF RESEARCH IN MARRIAGE AND THE FAMILY (3). This seminar reviews the basic conceptual frameworks used in family research in the past; identifies changing emphases in family study; and evaluates current studies in the major fields of family research. (Not offered in 1966-1967.) *Spring.* Bowerman.

340 SEMINAR IN MEDIA ANALYSIS (Journalism 340) (Psychology 340) (3). (See Journalism 340 for description.) *Spring.* Danielson.

370 SEMINAR IN SOCIOLOGY OF RELIGION (3). Prerequisite, undergraduate major in sociology or religion or permission of instructor. Examination of the major theoretical issues in the sociology of religion together with related research. *Spring.* Lenski.

393 MASTER'S THESIS (3). Individual research in a selected field under the direction of a member of the Department. *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION (3). Individual research in a selected field under the direction of a member of the Department. *Fall and spring.* Staff.

400 GENERAL REGISTRATION (0).

RECREATION ADMINISTRATION

The undergraduate major in Recreation Administration is designed to provide a wide range of educational experiences for those entering into any one of the several recreation specialities. Attention is focused upon the general arts and skills of recreation work which may be adapted to such fields of service as public recreation, recreation for the ill and disabled, and youth leadership.

UNDERGRADUATE MAJOR: Sociology 51 and Sociology 52, preferably taken in the sophomore year, are required of all majors and are prerequisite to other courses except where otherwise indicated. Other General College electives should include Education 41, Political Science 41, and at least one course in Fine Arts. Psychology 26, and Geography 38 or Geology 11 or Astronomy 31, are recommended as two of the natural science requirements in the General College.

The major consists of eight courses: Recreation Administration 73, 174, 176, 177 and 178; Sociology 56 and two Sociology electives above the level of Sociology 52.

The twelve other junior-senior courses (5 to 7 allied and 5-7 non-divisional) must include: Political Science 41, Economics 31 or Education 41, Psychology 26 and either Psychology 126 or Education 71, Folklore 185 or Library Science 122 or 123, Physical Education 83A or 88, Speech 40 or 44, Music 41 or Art 33, 44 or 45, Journalism 53 or 56 or English 32, R-TV-MP 45 or Dramatic Art 30 or 57. (As noted above, some of these may be taken as General College electives.)

GRADUATE DEGREE: The Master of Science degree in Recreation Administration is offered. A common core of courses is required. A split minor from two departments may be selected. All students admitted to this program must fulfill requirements for admission to the Graduate School (see Graduate School Catalogue).

The program requires Recreation Administration 271, 301, 302 and 393 as prerequisites for graduation. Students emphasizing recreation for the ill and disabled are required to take Recreation Administration 272 and 273.

Recreation Administration 73 or permission of the instructor is prerequisite to all other Recreation Administration courses.

Courses for Graduates and Advanced Undergraduates

73 COMMUNITY RECREATION (3). Foundations of organized recreation; backgrounds and theories, objectives and principles; social and economic factors; public, private, and commercial interests; recreation and the social institutions. *Fall and spring.* Staff.

74 SUPERVISED FIELD TRAINING IN RECREATION (3). Prerequisite, three or more courses in recreation. Supervised field experience in recreation; students will have opportunity to receive varied practical on-the-job experience in one or more agency types. *Spring.* Fortune.

75 PLANNING COMMUNITY ACTION PROGRAMS FOR DEPRIVED GROUPS (3). An analysis of the leisure problems confronting disadvantaged individuals and groups. Specific attention will be given to the unique characteristics of the disadvantaged, particularly the aged, physically handicapped, and culturally deprived. Techniques for involving these groups in meaningful community roles through recreation and leisure experiences will be developed. Case studies of selected communities and their disadvantaged citizens will be used in developing guidelines for effective community action. *Spring.* Stein.

76 PLANNING FOR RECREATION PROGRAMS, AREAS AND FACILITIES (4). Prerequisite, Recreation 73 or permission of instructor. A study of the principles of planning recreation programs, facilities, space, and the interdependent relationship of activities to physical environment. Emphasis is placed on the forces which condition programs and affect the design and construction of recreation facilities and areas. *Three lecture and one two-hour laboratory per week, fall.* Stein.

77 ADMINISTRATION OF RECREATION (3). Analysis of recreation from the standpoint of organization: administration; finances; budget; reports and records; leadership and training; legislation; publicity and public relations; coordination of community resources; program operation. *Fall.* Stein.

178 INTRODUCTION TO GROUP DYNAMICS AND COMMUNITY LEADERSHIP (3). Prerequisite, Recreation 73. An analysis of the techniques, methods, and motives of group and community leaders especially those associated with the Leisure Movement. Special attention is focused upon that role that organizational structure, personnel policies, inservice training programs, and supervision play in shaping formal, organizational leadership. *Fall and spring.* Sessoms.

Courses for Graduates

271 PROBLEMS OF ORGANIZED RECREATION (3). To promote insight into some problems confronting organized recreation in community life; to interpret and analyze the problems, determine specific needs; to plan for adjusting the problems. *Spring.* Stein.

272 RECREATION IN THE MEDICAL SETTING (3). An analysis of recreation in the medical setting with particular emphasis given to the objectives, procedures and resources necessary to organize and administer hospital recreation. *Fall.* Fortune.

273 PROGRAM PLANNING IN THE MEDICAL SETTING (3). Basic factors of program planning; adaption of activities for the ill and disabled, individual and group; development of special events and activities; role of volunteer patient and professional leaders; adaption of areas, facilities, equipment and resources to the hospital setting. *Spring.* Fortune.

301 READING AND RESEARCH (3 each semester). Registration by permission
302 of the instructor. Advanced reading, library research or field research on a selected topic under guidance of the instructor. *Fall and spring.* Sessoms.

393 MASTER'S THESIS (3). Individual research in a selected field under the direction of a member of the Department. *Fall and spring.* Staff.

400 GENERAL REGISTRATION (0).

SPEECH

(See English)

DEPARTMENT OF STATISTICS

Professors: G. E. NICHOLSON, JR., *Chairman,* HAROLD HOTELLING,[1] R. C. BOSE,[2] WILLIAM JACKSON HALL, WASSILY HOEFFDING, N. L. JOHNSON, W. L. SMITH
Associate Professors: I M. CHAKRAVARTI, M. R. LEADBETTER
Non-Resident Professor: JUNJIRO OGAWA
Research Associates: E. R. BERLEKAMP, J. V. DESHPANDE, SADAO IKEDA, OLAF KRAFFT, R. C. LASKAR, P. B. NEMENYI
National Science Foundation Faculty Fellow: SUTTON MONRO
Research Assistants: P. V. BUCHE, H. M. DAVIDSON, T. A. DOWLING, R. N. FORTHOFER, T. M. GERIG, MALAY GHOSH, P. B. IMREY, J. R. KETTENRING, J. O. KITCHEN, V. P. MANGLIK, C. B. READ, PIERRE ROBILLARD, K. J. C. SMITH, V. A. SOLAND, R. N. SPROULE, K. V. SURYANARAYANA, W. E. WILKINSON

1. Kenan Professor Emeritus. Retired July 1, 1966.
2. Kenan Professor.

Department Fellow: D. G. KLEINBAUM
Department Assistant: E. R. CUAN
NASA Fellows: R. M. MEYER, P. L. OBENCHAIN
NDEA Fellows: A. A. BLANCHARD, T. M. JOLLEY, D. N. LEVINE, E. W. WEISSNER
NSF Trainees: L. L. KUPPER, M. J. O'CONNELL

Although the Department of Statistics is primarily a graduate department, basic courses in statistical analysis and theory are offered for undergraduates majoring in other fields, and a program for an undergraduate major has recently been introduced. Students who have limited mathematical backgrounds and who plan to take a single course in statistics should elect Statistics 100. The basic analysis sequence consists of Statistics 101 and 102. The basic theory of statistics, required for all advanced work in the Department, is contained in Statistics 134, 135, and 150, and the basic probability theory, also essential for advanced work, is contained in Statistics 131 (or 134) and 132. Statistics 111 treats a number of mathematical topics necessary for advanced work in probability and statistics. Statistics 126 (Mathematics 146) is recommended for advanced undergraduate and graduate students who want an introduction to probability. These courses contain the fundamentals of the modern theory and methodology of statistics and are recommended for students in all fields.

The undergraduate degree in statistics is intended for those who have a serious interest in statistics and who would like to study the subject in sufficient detail to be able to compete successfully in the many important tasks for which well-trained undergraduate statisticians are needed in today's world. In order to satisfy requirements for this degree, a student should have an ability to handle mathematics through the level of advanced calculus and an interest in some subject in which statistics is applied.

Requirements for Bachelor of Science in Statistics

GENERAL COLLEGE

(For freshman-sophomore requirements, see page 56.)

JUNIOR YEAR	SENIOR YEAR
Mathematics 121, 122, 136, 137	Statistics 128 and either 103 or 129
Statistics 101, 102, 131, 127	Information Science 10 or 100
Two electives[3]	One humanities elective
	Two non-divisional electives
	Four electives[3]

The Undergraduate Major

Specific details on courses and their arrangement, together with information on admission procedures and student life, are given in The Undergraduate Bulletin of the University.

3. Electives must include science courses to provide, with the General College sciences, a total of six courses in science, at least two of them physical and at least two biological.

The offerings of the Department of Statistics, in addition to providing an undergraduate major leading to the degree Bachelor of Science, include a variety of courses of potential value to students majoring in other disciplines. Statistics 100 is intended for students desiring a single basic course. Substantial coverage of the methods of applied statistical analysis is given by Statistics 101 and 102. Introduction to probability theory, at different levels of mathematical rigor, is provided by Statistics 126 or 131. The basic theory of statistical inference is given by Statistics 127 and 128. Introduction to probability and statistical inference theory is treated from a more advanced mathematical viewpoint in Statistics 134 and 135: these courses are prerequisite to courses in advanced theory.

Courses for Graduates and Advanced Undergraduates

For description of the courses listed below see the special bulletin on statistics.

100 PRINCIPLES OF STATISTICAL INFERENCE (City Planning 100) (Genetics 100) (Linguistics 100) (3). Prerequisite, college algebra. *Fall.* Nicholson.

101 STATISTICAL ANALYSIS I (Biostatistics 150) (Genetics 101) (4). Corequisite, integral calculus. *Three lecture and two laboratory hours a week, fall.* Quade.

102 STATISTICAL ANALYSIS II (Biostatistics 151) (Genetics 102) (3). Prerequisite, Statistics 101. *Two lecture and two laboratory hours a week, spring.* Quade.

103 STATISTICAL ANALYSIS III (3). Prerequisites, Statistics 102 and matrix theory. *Spring.* Staff.

111 METHODS OF MATHEMATICAL STATISTICS I (3). Prerequisite, advanced calculus. *Fall.* Smith, Leadbetter.

126 INTRODUCTION TO PROBABILITY (Mathematics 146) (3). Prerequisite, one semester advanced calculus (Mathematics 121 or 193). *Spring.* Hall.

127 MATHEMATICAL STATISTICS I (3). Prerequisite, Statistics 126 or 131 or equivalent. *Spring.* Kuebler.

128 MATHEMATICAL STATISTICS II (3). Prerequisites, Statistics 127 and matrix theory or equivalent. *Fall.* Staff.

129 INTRODUCTION TO STOCHASTIC PROCESSES (3). Prerequisites, Statistics 126 or 131, one semester of advanced calculus, and matrix theory. *Spring.* Staff.

131 ELEMENTARY PROBABILITY THEORY (3). Prerequisite, integral calculus. *Fall.* Kuebler.

132 INTERMEDIATE PROBABILITY (3). Prerequisite, Statistics 126 or 134. *Spring.* Smith.

133 LEAST SQUARES AND TIME SERIES (3). Prerequisites, Statistics 134 and matrix theory. *Fall.*

134 STATISTICAL THEORY I (3). Prerequisites, two semesters of advanced calculus. *Four lecture and two laboratory hours a week, fall.* Johnson.

135 STATISTICAL THEORY II (3). Prerequisite, Statistics 131 or 134. *Spring.* Johnson.

144 CORRELATION, CONTINGENCY, AND CHI TESTS (3). Prerequisite, Statistics 135; corequisite, matrix theory. *Spring.*

150 ANALYSIS OF VARIANCE WITH APPLICATION TO EXPERIMENTAL DESIGNS (3). Corequisite, Statistics 135. *Spring.* Bose, Chakravarti.

170 ORDER STATISTICS (3). Prerequisite, Statistics 135. *Spring.* David.

171 INTRODUCTION TO NONPARAMETRIC STATISTICS (Biostatistics 228) (3). Prerequisites, Statistics 128, 102 or equivalent. *Fall.* David.

182 MATHEMATICAL ECONOMICS (Economics 182) (3). Prerequisite, advanced calculus; corequisite, matrix theory. (1968-1969 and alternate years.) *Fall.*

183 ADVANCED MATHEMATICAL ECONOMICS (Economics 183) (3). Prerequisites, Statistics 182 and differential equations (1968-1969 and alternate years.) *Spring.*

197 POPULATION STATISTICS (Sociology 197). Prerequisite, permission of the instructor. *Spring.* Namboodiri.

198 SAMPLE SURVEY THEORY (Biostatistics 224) (3). Prerequisite, Statistics 101 or 134. *Spring.* Staff.

Courses for Graduates

200 APPLIED MULTIVARIATE ANALYSIS I (3). Prerequisite, Statistics 135. *Fall.* Johnson.

202 METHODS OF OPERATIONS RESEARCH (Information Science 230) (3). Prerequisite, Statistics 135. (1967-1968 and alternate years.) *Fall.* Nicholson, Smith.

204 SELECTED TECHNIQUES OF APPROXIMATION (3). Prerequisite, advanced calculus. (1967-1968 and alternate years.) *Fall.*

210 DESIGN AND ANALYSIS OF EXPERIMENTS (3). Prerequisites, Statistics 102 and 150. *Fall.* Chakravarti.

212 METHODS OF MATHEMATICAL STATISTICS II (3). Prerequisite, advanced calculus. *Spring.* Leadbetter.

220 THEORY OF ESTIMATION AND HYPOTHESIS TESTING (4). Prerequisites, Statistics 132, 135, and 212. *Fall.* Hall, Hoeffding.

221 SEQUENTIAL ANALYSIS (2). Prerequisites, Statistics 132 and 135. *Fall.* Hoeffding.

222 NONPARAMETRIC INFERENCE (3). Prerequisites, Statistics 132, 135, and 212. *Spring.* Hoeffding.

231 ADVANCED PROBABILITY (3). Prerequisites, Statistics 132 and 212. (1966-1967 and alternate years.) *Fall.* Smith.

232 GENERAL THEORY OF STATISTICAL DECISION (3). Prerequisites, Statistics 135 and 212. (1966-1967 and alternate years.) *Spring.* Hoeffding

235 STOCHASTIC PROCESSES (3). Prerequisites, Statistics 132 and 212. (1967-1968 and alternate years.) *Spring.* Smith.

237 TIME SERIES ANALYSIS (3). Prerequisite, Statistics 133. (1967-1968 and alternate years.) *Spring.*

251 COMBINATORIAL PROBLEMS OF THE DESIGN OF EXPERIMENTS (3). Prerequisite, Statistics 150. *Fall.* Bose.

252 INFORMATION THEORY (3). Prerequisite, Statistics 132; corequisite (or prerequisite), Statistics 212. *Fall.* Bose.

253 ERROR CORRECTING CODES (3). Prerequisite, Statistics 251. *Spring.* Bose.

254 SPECIAL TOPICS IN DESIGN OF EXPERIMENTS I (3). Prerequisite, Statistics 150. *Fall.* Bose.

255 SPECIAL TOPICS IN THE DESIGN OF EXPERIMENTS II (3). Prerequisite, Statistics 251. *Spring.* Bose.

260 MULTIVARIATE ANALYSIS (3). Prerequisites, Statistics 135 and matrices. *Fall.* Staff.

261 ADVANCED MULTIVARIATE ANALYSIS (3). Prerequisite, Statistics 260. *Spring.* Staff.

262 MULTIFACTOR MULTIRESPONSE EXPERIMENTS WITH RESPONSES NOT NECESSARILY NORMAL (3). Prerequisite, Statistics 260. *Fall.* Staff.

263 ADVANCED MULTIFACTOR MULTIRESPONSE EXPERIMENTS WITH RESPONSES NOT NECESSARILY NORMAL (3). *Spring.* Staff.

300-301 SEMINAR IN STATISTICAL LITERATURE (1 each). Prerequisite, Statistics 135. *Fall and spring.* Staff.

310-311 SEMINAR IN THEORETICAL STATISTICS (3 each). Prerequisite, Statistics 135. *Fall and spring.* Staff.

321-322 SPECIAL PROBLEMS (3 each). Prerequisite, permission of the instructor. *Fall and spring.* Staff.

331-332 ADVANCED RESEARCH (3 each). Prerequisite, permission of the instructor. *Fall and spring.* Staff.

393 MASTER'S THESIS (3). *Fall and spring.* Staff.

394 DOCTORAL DISSERTATION (3). *Fall and spring.* Staff.

400 GENERAL REGISTRATION (0).

DEPARTMENT OF ZOOLOGY

Professors: H. E. LEHMAN, *Chairman*, C. D. BEERS,[1] R. E. COKER,[2] D. P. COSTELLO,[3] W. L. ENGELS, D. G. HUMM, C. E. JENNER, C. S. JONES, H. T. ODUM, M. WHITTINGHILL

Associate Professors: I. R. HAGADORN, ELIZABETH A. MCMAHAN, A. E. STIVEN, J. R. HENDRICKS (of the Department of Parasitology), J. F. MCCORMICK (of the Department of Botany)

Visiting Associate Professor: LILLIAN Y. LEHMAN

Assistant Professors: J. C. LUCCHESI, D. W. MISCH, H. C. MUELLER, D. W. STAFFORD, R. B. TERRY

Visiting Assistant Professor: R. W. ANGELL

Instructor: VIRGINIA W. HOCHELLA

Research Associate: CATHERINE HENLEY

Predoctoral Fellows: C. R. AULT, C. W. CHRISTOPHER, B. G. CONSTANTELOS, D. F. CRANE, DEBORAH M. DEXTER, NANCY C. EDWARDS, ELLEN S. FOSCUE, W. S. GAUD, G. S. HAND, T. HOMYK, PAMELA B. KOENIG, W. L. KRUCZYNSKI, ANNE B.

1. Professor, Emeritus.
2. Kenan Professor, Emeritus.
3. Kenan Professor.

McCRARY, D. H. MORSE, J. A. NEWTON, W. D. NEWTON, J. PANAGIDES, J. B. PATTERSON, J. W. PELLEY, W. H. RITTENHOUSE, M. J. SCHEWE, MARY J. SHARP, P. D. SMITH, P. SOLLINS, MARY B. THOMAS, J. B. WHITNEY

Teaching Fellow. D. W. BREWER

Graduate Teaching Assistants: W. L. BISCHOFF, L. H. DiSALVO, MARY L. FAGGARD, W. J. FARRELL, NANCY FERGUSON, H. J. GRIER, J. R. HALL, J. KATHERINE HIOTT, B. R. INGRAM, PATRICIA W. JOHNSON, J. E. KANZ, R. A. KELLY, E. W. LINDGREN, L. H. SAUNDERS, C. F. SMITH, W. H. B. SMITH, W. M. ST. JOHN, VIRGINIA A. VAUGHAN, KAREN S. WEBB

Research Assistants: MARY S. AUSTIN, J. O. CLARK, E. V. DAVIS, BEATRICE A. FLEMING, ANNA W. FINKEL, T. C. FOIN, JANE H. HUMM, DELORIS C. MacKINNEY, MARGARET S. MISCH, RONALD A. MOORE, R. A. O'QUINN, PAMELA S. RHODES, ROGER W. STAPLES, AVIS L. SYLVIA, BARBARA H. THORNTON, CAROL P. VOLLMER

Students who intend to major in zoology should plan to complete the prerequisite course, Zoology 11, not later than the first semester of the sophomore year and should select Chemistry 11 and 21 as the other two General College sciences. Either French or German should be elected for the General College foreign language.

Bachelor of Arts in Zoology

For the A.B. in Zoology, at least eighteen upper-division (junior-senior level) courses are required, and these must be distributed as follows:

1. Six to eight courses in zoology, of which at least six must be laboratory courses and which must include at least one course from each of the following groups: (a) Zoology 41, 103; (b) Zoology 104, 105, 115; (c) Zoology 106, 108; (d) Zoology 111, 120, 121. The remaining courses for the major may be selected freely from zoology courses numbered below 200.
2. Six or seven approved electives in allied departments within the Division of Natural Sciences, which must include Botany 11, two courses in physics (24-25 or equivalent); 8 semester hours in organic chemistry (61-64 or equivalent), which should be taken in the junior year; the remaining courses may be elected freely; the election of Mathematics 31 and 32 is recommended.
3. Six or seven approved electives chosen from departments in the College of Arts and Sciences outside the Division of Natural Sciences. The election of French and/or German is strongly recommended.

Bachelor of Science in Zoology

The B.S. degree is designed for students who wish to make the most effective use of undergraduate years as preparation for graduate study and professional careers in Zoology or medicine.

The B.S. program requires Mathematics 32, Chemistry 43 and 2 semesters of French or German (whichever was not taken as the General College requirement) in addition to all requirements for the B.A. degree outlined above. The B.S. curriculum requires:

FRESHMAN YEAR

Mathematics 6 (or 15) and 31
Chemistry 11 and 21
English and Modern Civilization 1 and 2
French or German 3 and 4

SOPHOMORE YEAR

Zoology 11 and Zoology elective[4]
Chemistry 43
Physics 24 and 25
Mathematics 32
English 21
Social Science elective
French or German 21

JUNIOR YEAR

3 Zoology electives[4]
Chemistry 61 and 64
Botany 11
1 Non-science elective[5]
French 14 and 15, or German 1 and 2[6]

SENIOR YEAR

2 Zoology electives[4]
2 Allied science electives[7]
2 Free science electives[4, 7]
3 Non-science electives[5]

Students who plan to undertake graduate study and who have a *B* average or better are encouraged to apply for the following undergraduate programs designed to prepare and accelerate progress toward advanced degrees: B.A. degree in Zoology with a double major in either botany, chemistry, mathematics or physics (see page 60); B.A. degree in Zoology with Honors or Highest Honors (see page 64); Zoology Honors and Master's Degree Program. Note that candidates for these programs in the junior year must secure approval from a departmental faculty adviser, and must register for honors with a departmental faculty honors director before the registration period for the senior year.

Students who plan to teach in public high schools should read the statement under the "School of Education" in Part III. See there also the requirements for the B.S. degree in Science Teaching, and the courses in Directed Teaching in High School Science and in Materials and Methods in Teaching High School Science.

Special courses and the direction of graduate studies in marine zoology may be offered by members of the staff of the Institute of Fisheries Research upon the recommendation of the Department and the approval of the Administrative Board of the Graduate School. Interested students may consult the departmental adviser concerning this program.

4. Zoology courses numbered below 200 to include: 41 or 103, 104 or 105 or 115, 106 or 108, 111 or 120 or 121; other may be elected freely.
5. Recommended are: English 33, History 151, Philosophy 21 or 108, or additional language and humanities.
6. Whichever language was not taken as a General College requirement.
7. Recommended are: Biochemistry 105, additional Botany, Chemistry 83, Physics 54, Statistics 100 or 101, Geology 42, Psychology 26.

Graduate Degrees in Zoology

The graduate program in zoology is designed primarily for students who plan to continue for the degree of Doctor of Philosophy. The Master of Arts degree may be taken as part of the program leading to the Ph.D. but is not required.

Students who do not plan to continue beyond the Master's degree are referred to the Master of Arts in Science Teaching in the School of Education.

Unless taken as an undergraduate, Zoology 103, 104, 106, 111, and 120 or 121, Physics 24, 25, Chemistry 61, 64 are required of all candidates for graduate degrees.

Courses for Undergraduates

NOTE: Zoology 11 or its equivalent is prerequisite to all other courses in this department.

11 PRINCIPLES OF GENERAL ZOOLOGY (4). No prerequisite. Open to freshmen. Prerequisite to all other courses in zoology. Principles, problems, and experimental methods of animal biology; basic similarities of all living organisms; organ systems and their physiology; embryology, genetics, organic evolution, ecology; survey of the major animal phyla. *Three lecture and three laboratory hours a week, fall and spring.* Staff; assistants.

141 INTRODUCTORY VERTEBRATE ZOOLOGY (4). Prerequisite, Zoology 11. Especially designed for premedical, predental, and pharmacy students. Fundamentals of vertebrate anatomy, physiology, histology, embryology, classification, and homology. *Three lecture and three laboratory hours a week, fall and spring.* Jones, L. Y. Lehman, Mueller, Terry; assistants.

178 ANIMAL EVOLUTION (3). Prerequisite, Zoology 11. Organic evolution as the unifying biological concept; historical development; nature of evidence; Darwinian and neo-Darwinian concepts; theories of mechanism. (On occasion.) *Three lecture and demonstration hours a week, spring.* H. E. Lehman.

199a COURSE FOR HONORS (1½ each). Prerequisite, approval by staff honors
199b director. Reading, original research, and the preparation of an essay under the direction of a departmental adviser. Required of all candidates for honors in the senior year. Jenner; staff.

Courses for Graduates and Advanced Undergraduates

200 TOPICS IN CELL BIOLOGY (4). Prerequisite, Zoology 11 or equivalent. Especially designed for secondary school teachers of biology; not open to others except by special permission. Cells and tissues from the standpoints of morphology, metabolism, reproduction, inheritance, growth and development. *Three lecture and three laboratory hours a week, fall or spring.* Jones, Misch.

201 TOPICS IN INVERTEBRATE ZOOLOGY (4). Prerequisite, Zoology 11 or equivalent. Especially designed for secondary school teachers of biology; not open to others except by special permission. A consideration of the major invertebrate groups from the comparative morphological, physiological, and phylogenetic viewpoints. *Three lecture and three laboratory hours a week, fall or spring.* Jones, L. Y. Lehman.

102 TOPICS IN VERTEBRATE ZOOLOGY (4). Prerequisite, Zoology 11 or equivalent. Especially designed for secondary school teachers of biology; not open to others except by special permission. Not open to students with credit for Zoology 41. Comparative anatomical, physiological, evolutionary, and developmental studies of the chordate animals. *Three lecture and three laboratory hours a week, fall or spring.* Jones, L. Y. Lehman.

103 COMPARATIVE VERTEBRATE ANATOMY (4). Prerequisite, Zoology 11. Lectures on the structure and evolutionary history of the chief organ systems of vertebrates. Dissections of amphioxus, petromyzon, dogfish head, necturus, and cat. *Two lecture and six laboratory hours a week, fall.* Engels; assistants.

104 VERTEBRATE EMBRYOLOGY (4). Prerequisite, Zoology 11. Special study of fertilization, cleavage, germ-layer formation, organogenesis, and extra-embryonic membranes, using frog, chick, and pig. *Two lecture and six laboratory hours a week, fall and spring.* H. E. Lehman; assistants.

105 VERTEBRATE HISTOLOGY AND MICROTECHNIQUE (4). Prerequisite, Zoology 11 and permission of the instructor. The preparation of selected tissues and organs for microscopic examination; study of these to acquaint the student with the essentials of histology. *One lecture and six laboratory hours a week, spring.* Costello; assistants.

106 GENERAL INVERTEBRATE ZOOLOGY (5). Prerequisite, Zoology 11. The biology of invertebrate animals with special reference to structure, function, classification, and ecology. *Three lecture and six laboratory hours a week, fall.* Jenner; assistants.

108 ECOLOGY (Botany 141) (4). Prerequisite, Zoology 11 or Botany 11. A study of the principles governing the environmental interrelationships of organisms, populations, communities, and ecosystems. *Three lecture and three laboratory hours per week, fall and spring.* Odum, Stiven, McCormick (of the Department of Botany); assistants.

109 INTRODUCTION TO HYDROBIOLOGY (4). Prerequisites, Zoology 106 and 108, or permission of the instructor. A study of the biology of acquatic organisms. (1966-1967 and alternate years.) *Two lecture and six laboratory and field hours a week, spring.* Jenner.

110 GENERAL PARASITOLOGY (4). Prerequisites, Zoology 11 and 106. A comparatitve study of structure, life cycles, and classification of parasites of invertebrates and vertebrates and laboratory methods for the collection, culture, and microscope preparation of parasitological materials. (1966-1967 and alternate years.) *Two lecture and four laboratory hours a week, spring.* Hendricks (of the Department of Parasitology).

111 GENETICS (4). Prerequisite, Zoology 11. The principles of Mendelian heredity, linkage, mutation, population genetics, and the relation between genes and environment in development. Laboratory experiments with Neurospora, Drosophila and maize. *Two lecture and six laboratory hours a week, fall and spring.* Lucchesi, Whittinghill; assistants.

112 VERTEBRATE FIELD ZOOLOGY (4). Prerequisite, Zoology 11. An introduction to the natural history of vertebrates. Lectures on selected topics. Laboratory and field exercises on the identification, habits, and local distribution of amphibians, reptiles, birds, mammals. *Two lecture and six laboratory and field hours a week, spring.* Engels.

115 ANALYTICAL CYTOLOGY (4). Prerequisites, Zoology 11; Chemistry 61, prerequisite or corequisite. Introduction to biological ultrastructure and its relation to cell function; consideration of structural, physiological and

macromolecular features of selected cells and organelles, with experimental methods for their study. *Two lecture and six laboratory hours per week, fall.* Misch; assistants.

120 COMPARATIVE PHYSIOLOGY (4). Prerequisites, Zoology 11; Chemistry 61, prerequisite or corequisite. The comparative physiology of respiration, digestion, excretion, osmotic and ionic regulation, coordination, reception and movement. *Two lecture and six laboratory hours a week, fall.* Hagadorn; assistants.

121 INTRODUCTION TO CELL PHYSIOLOGY (4). Prerequisites, Zoology 11; Chemistry 61, prerequisite or corequisite. Cell and protoplasmic functions as expressed in physical and chemical properties of cells; with laboratory emphasis on cellular metabolism, active transport, and quantitative evidence of cell activity. *Two lecture and six laboratory hours a week, spring.* Humm; assistants.

122 HUMAN GENETICS (3). Prerequisite, Zoology 11. A study of biological inheritance in man. Effects of mutation, selection, migration, and racial mixture; applications of genetics to medico-legal questions. *Three lecture hours a week, fall.* Whittinghill.

126 OCEANOGRAPHY (3). Prerequisites, Zoology 11 or Botany 11, and Chemistry 21 and Physics 25, or permission of the instructor. A study of the seas and their processes. *Three lecture hours a week, spring.* Odum.

140s BIOLOGICAL OCEANOGRAPHY (6). Prerequisites, Zoology 106 and 108, or permission of instructors. Physical, chemical and biological factors characterizing estuarine and marine environments emphasizing factors controlling plant and animal populations including methods of analysis, sampling, and identification. *Five lecture and 25 or more laboratory hours a week, first summer term.* (Offered at Morehead City, N. C.) Staff of Institute of Marine Sciences.

141s SPECIAL PROBLEMS IN MARINE BIOLOGY (6). Prerequisite, Zoology 140s and/or permission of instructors. Comprehensive surveys of problems and laboratory methods in any one of the following areas: Marine Mollusca (Chestnut), marine Crustacea (Williams), marine Vertebrata (Deubler, Fahy), marine ecology (Woods). *Thirty or more conference and laboratory hours per week, second summer term.* (Offered on demand at Morehead City, N. C.) Staff of the Institute of Marine Sciences.

146 MARINE ECOLOGY (4). Prerequisites, Zoology 106 and 108, or permission of instructor. An introductory study of oceanography as it pertains to the ecology of marine organisms; consideration of biological productivity and fisheries problems. (1965-1966 and alternate years.) *Three lecture and three laboratory hours a week, and two two-day field trips to the coast, spring.* Jenner; staff of the Institute of Marine Sciences.

156 ADVANCED MARINE INVERTEBRATE ZOOLOGY (2 each). Prerequi-
157 site, Zoology 106. Knowledge of marine invertebrate zoology will be gained primarily by field and laboratory study at the coast. Special projects, selected lecture topics, and lectures and demonstrations by specialists on particular groups. Content will change in each offering and with permission of the instructor either course may be repeated with credit. *Two or more lecture and laboratory hours a week, with two weekend field trips to the North Carolina coast, and one three-day cruise aboard the RV Eastward; in the spring recess one field trip to the Florida keys; fall, spring.* Jenner.

163 DEVELOPMENTAL GENETICS (3). Prerequisite, 1 course in genetics. The genetic control of gametogenesis, fertilization, and the molecular basis for

gene expression during development. *Three lecture hours a week, spring.* Lucchesi.

164 MOLECULAR BIOLOGY (3). Prerequisites, Zoology 11 and Chemistry 61. The nature, production and replication of biological compounds and their relation to structure and function in development. *Three lecture hours a week, spring.* Stafford.

(Zoology majors with a *B* average who plan to continue study for an advanced degree may be admitted to graduate courses at the 200-level; undergraduate requirements for admission to 200-level courses are given on page 111.)

Courses for Graduates

204A EXPERIMENTAL VERTEBRATE EMBRYOLOGY (3). Prerequisite, Zoology 104. Survey of problems of vertebrate development relating to nucleocytoplasmic interactions, embryonic determination, organogenesis, differentiation and regeneration. (1966-1967 and alternate years.) *Three lecture and discussion hours a week, fall.* Lehman.

204B EXPERIMENTAL METHODS IN VERTEBRATE EMBRYOLOGY (2). Prerequisites, Zoology 104; corequisite, Zoology 204A, or permission of professor. Laboratory techniques for parthenogenesis, hybridization, tissue culture, transplantation, chorio-allantoic grafting and other experimental techniques for embryological research. (On demand.) *Six laboratory hours a week, fall or spring.* Lehman.

205A FUNCTIONAL CYTOLOGY (3). Prerequisite, Zoology 105, or permission of the instructor. Protoplasmic organization revealed by microscopic and submicroscopic structure as related to metabolic, synthetic, and replicating systems in cells. (1966-1967 and alternate years.) *Three lecture and discussion hours a week, spring.* Misch.

205B METHODS IN CYTOLOGICAL ANALYSIS (2). Prerequisites, Zoology 105 and permission of the instructor; corequisite, Zoology 205A. Laboratory techniques for identification and localization of cell constituents including carbohydrates, lipids, proteins, minerals, enzymes and cellular organelles. (1966-1967 and alternate years.) *Six laboratory hours a week, spring.* Misch.

208A POPULATION DYNAMICS (3). Prerequisites, Zoology 108 or Botany 141, or permission of instructor. A study of population and community ecology; distribution and dispersal, population growth and regulation, analysis of life tables and mortality data, interspecific association and community structure and function. (1965-1966 and alternate years.) *Three lecture hours a week, spring.* Stiven.

208B METHODS IN POPULATION ANALYSIS (2). Prerequisites, Zoology 108 or Botany 141 or permission of instructor; corequisite, Zoology 208A. Procedures for analysis and interpretation of population phenomena in laboratory, field, and hypothetical systems. (1965-1966 and alternate years.) *Six laboratory and problem hours a week, spring.* Stiven.

209 EXPERIMENTAL INVERTEBRATE EMBRYOLOGY (5). Prerequisite, Zoology 104. The study of fertilization, cell-lineage, differentiation, and regeneration of invertebrates from the experimental viewpoint. (On occasion.) *Five lecture, seminar, and demonstration hours a week, fall.* Costello.

213 ADVANCED MARINE ECOLOGY (3). Prerequisites, Zoology 109 and 146; or Zoology 146 and special permission of the instructor. A study of the organisms of coastal waters in relation to their physical, chemical, and biotic environments. (On occasion.) *Six lecture, seminar, or laboratory hours a*

week, and one or more field trips to the coast, spring. Jenner; staff of the Institute of Marine Sciences.

218A COMPARATIVE PHYSIOLOGY OF CO-ORDINATION (3). Prerequisites, Zoology 120 and permission of the instructor. A survey of hormonal and neural mechanisms in vertebrates and invertebrates; the comparative anatomy and physiology of neurons and functional units of nervous systems; endocrine structure, function, and mode of hormone action. (1966-1967 and alternate years.) *Three lecture and discussion hours a week, spring.* Hagadorn.

218B EXPERIMENTAL METHODS IN NEUROLOGY-ENDOCRINOLOGY (2). Prerequisites, Zoology 120 and permission of the instructor; corequisite, Zoology 218A. Laboratory techniques of surgery, histology, bioassay, and electrophysiology as applied to the analysis of nervous and endocrine function and coordination. (1966-1967 and alternate years.) *Six or more laboratory hours a week, spring.* Hagadorn.

220A ADVANCED CELLULAR PHYSIOLOGY (3). Prerequisite, Zoology 120. The physiochemical aspects of protoplasm, including permeability, surface tension, pH, cellular metabolism and other measurable properties of living cells. (1966-1967 and alternate years.) *Three lecture and discussion hours a week, fall.* Humm.

220B EXPERIMENTAL METHODS IN CELLULAR PHYSIOLOGY (2). Prerequisites, Zoology 120 and permission of the instructor; corequisite, Zoology 220A. Laboratory techniques in micro-respiration, spectrophotometry, chromatography, and identification and metabolism of subcellular fractions. (1966-1967 and alternate years.) *Six or more laboratory hours a week, fall.* Humm.

222 ADVANCED GENETICS (3). Prerequisite, Zoology 111. The effects of chemical agents in the environment upon inheritance. Reports from the literature chiefly upon chemical mutagenesis. Laboratory experiments on the chemical induction of crossing over. (1965-1966 and alternate years.) *Six laboratory and conference hours a week, fall.* Whittinghill.

223 RADIATION GENETICS (3). Prerequisite, Zoology 111. Study of the action upon living cells of irradiation by X-rays, neutrons, infrared, ultraviolet, and other forms of radiation. Crossing over and mutations are emphasized. (1966-1967 and alternate years.) *Three lecture or seminar hours a week, spring.* Whittinghill.

224 CHARACTERIZATION OF BIOLOGICAL MACROMOLECULES (3). Prerequisite or corequisite, Zoology 164, or permission of the instructor. Isolation and characterization of cellular extracts, chromatography, and use of radioactive tracers including autoradiography. *Six or more laboratory hours a week, spring.* Stafford.

The following seminars will survey the literature, concepts, and theories in their respective fields. In general, graduate students in zoology will register for at least one seminar during each semester of residence. *Each seminar, two discussion hours a week.*

250 SPECIAL SEMINAR (2). Prerequisite, permission of the instructor. Consideration of special topics in zoology. *Fall or spring, on occasion.* Visiting staff.

251 SEMINAR IN GENETICS (2). Prerequisite, Zoology 111 or permission of the instructor. (1966-1967 and alternate years.) *Fall.* Whittinghill.

253 SEMINAR IN EMBRYOLOGY (2). Prerequisite, Zoology 104, or permission of the instructor. *Fall or spring.* Lehman, Terry.

254 SEMINAR IN CYTOLOGY (2). Prerequisite, Zoology 105 or permission of the instructor. (1967-1968 and alternate years.) *Fall.* Costello.

255 SEMINAR IN ECOLOGY (2). Prerequisite, Zoology 108, or permission of the instructor. *Fall or spring.* Odum, Stiven.

256 SEMINAR IN INVERTEBRATE ZOOLOGY (2). Prerequisite, Zoology 106, or permission of the instructor. (1966-1967 and alternate years.) *Spring.* Jenner.

257 SEMINAR IN SPECIATION AND SYSTEMATIC ZOOLOGY (2). (1967-1968 and alternate years.) *Spring.* Engels.

258 SEMINAR IN CELLULAR PHYSIOLOGY (2). Prerequisite, Zoology 120, or permission of the instructor. (1966-1967 and alternate years.) *Fall.* Humm.

259 SEMINAR IN COMPARATIVE ANIMAL BEHAVIOR (2). *Fall.* McMahan, Mueller.

260 SEMINAR IN COMPARATIVE PHYSIOLOGY (2). Prerequisite, Zoology 120, or permission of the instructor. (1967-1968 and alternate years.) *Spring* Hagadorn.

261 SEMINAR IN ANALYTICAL CYTOLOGY AND ULTRASTRUCTURE (2). Prerequisite, Zoology 105 or 115 or permission of the instructor. (1966-1967 and alternate years.) *Spring.* Misch.

263 SEMINAR IN DEVELOPMENTAL GENETICS (2). Prerequisite, Zoology 111 or Genetics 155, or permission of the instructor. (1967-1968 and alternate years.) *Spring.* Lucchesi.

264 SEMINAR IN CHEMICAL EMBRYOLOGY (2). Prerequisite, Zoology 104, or 120, or 121, or permission of the instructor. (1966-1967 and alternate years.) *Fall.* Stafford.

Courses numbered above 300 require the permission of the instructor and are designed for applicants for advanced degrees. Research may be continued for two or more semesters under the same course number. *Each course six or more laboratory and conference hours a week, fall and spring.*

331 RESEARCH IN INVERTEBRATE ZOOLOGY (3 or more). Jenner.

332 RESEARCH IN EXPERIMENTAL CYTOLOGY (3 or more). Costello.

333 RESEARCH IN EXPERIMENTAL EMBRYOLOGY OF INVERTEBRATES (3 or more). Costello.

334 RESEARCH IN CELL PHYSIOLOGY (3 or more). Humm.

335 RESEARCH IN HYBROBIOLOGY (3 or more). Jenner.

336 RESEARCH IN VERTEBRATE ZOOLOGY (3 or more). Engels.

337 RESEARCH IN GENETICS (3 or more). Whittinghill.

338 RESEARCH IN PHYSIOLOGY OF LOWER INVERTEBRATES (3 or more). Jones.

339 RESEARCH IN EXPERIMENTAL EMBRYOLOGY OF VERTEBRATES (3 or more). Lehman.

340 RESEARCH IN ECOLOGY—SYSTEMS (3 or more). Odum.

341 RESEARCH IN ECOLOGY—POPULATIONS (3 or more). Stiven.

342 RESEARCH IN COMPARATIVE PHYSIOLOGY (3 or more). Hagadorn.

343 RESEARCH IN COMPARATIVE ANIMAL BEHAVIOR (3 or more). McMahan.

344 RESEARCH IN ENZYME HISTOCHEMISTRY (3 or more). Misch.

345 RESEARCH IN DEVELOPMENTAL GENETICS (3 or more). Lucchesi.

346 RESEARCH IN CHEMICAL EMBRYOLOGY (3 or more). Stafford.

347 RESEARCH IN ETHOLOGY (3 or more). Mueller.

348 RESEARCH IN DEVELOPMENTAL CYTOLOGY. (3 or more). Terry.

Courses numbered 360 to 363 are offered at the Institute of Marine Sciences, Morehead City, N. C., and require the approval of the Department of Zoology and the instructor in the Institute of Fisheries Research.

360 RESEARCH ON MARINE MOLLUSCA (3 or more). Chestnut.

361 RESEARCH ON MARINE CRUSTACEA (3 or more). Williams.

362 RESEARCH IN MARINE ICTHYOLOGY (3 or more). Daubler, Fahy.

363 RESEARCH ON BIOLOGICAL OCEANOGRAPHY (3 or more). Woods.

393 MASTER'S THESIS (3 or more). Required of all master of arts degree candidates. *Fall, spring or summer.* Staff.

394 DOCTORAL DISSERTATION (3 or more). Required of all doctor of philosophy candidates. *Fall, spring or summer.* Staff.

400 GENERAL REGISTRATION (0).

Part Five

SPECIAL SERVICES AND ORGANIZATIONS

THE UNIVERSITY LIBRARIES

JERROLD ORNE, Ph.D., B.S., *University Librarian*
CLIFTON BROCK, A.B., M.A., M.L.S., *Acting Associate University Librarian*

The University Libraries contain over 1,623,057 volumes. Including manuscripts, pamphlets, maps, microfacsimiles, recordings, clippings, prints, etc., the count of holdings is 5,824,896 items. Bound periodicals account for over 200,000 volumes; and the rate of growth of the library averages about 75,000 volumes a year through purchase, gift, and exchange. Periodical and other serial subscriptions number more than 14,500.

The Louis Round Wilson Library building, situated at the south end of Polk Place facing South Building, was erected in 1929 and expanded in 1952 to provide an additional bookstack containing 511 carrels for faculty and graduate students, additional general reading rooms, faculty studies, and special facilities for rare books, manuscripts, North Caroliniana, maps, documents, the Bull's Head Bookshop, and the School of Library Science. Located on the ground floor are the Manuscripts Department, Southern Historical Collection, Rare Book Room, Photoduplication Service, Bull's Head Bookshop (browsing, and sale of current books), Interlibrary Loan, Newspaper Room, and Map Room. The first floor, entered directly from the front of the building, provides general service through a Reserve Book Room and the Undergraduate Library. The special collection of North Caroliniana is also on this level. The North Carolina Collection is the most complete one of its scope—housed in a beautiful reading room adjoining the general stack. This room is flanked by the Sir Walter Raleigh Rooms furnished as in 1600, and the Early Carolina Rooms equipped as in 1740. The richness of the North Carolina Collection and its quarters bespeak the generosity of several important donors—John Sprunt Hill, Bruce Cotten, Preston Davie. The Librarian's office is located on the first floor. Exhibition cases on this floor, as well as on the ground and second floors, display special materials or illustrated topics of current interest. The second floor contains the Humanities Division, the Business Administration and Social Sciences Division, and the Technical Processing departments, Acquisitions and Cataloguing. The Loan Desk and Card Catalogue are also on this level. The third floor houses the School of Library Science (including a depart-

ment library). There also are forty-nine faculty studies and numerous conference and seminar rooms.

Special collections of importance include: the Southern Historical Collection (3,860,762 manuscripts); the North Carolina Collection (92,561 volumes and 202,602 other pieces); the Hanes Collection recording the development of the book, including 747 incunabula and some 2,000 manuscripts or other items; the Whitaker collections of Johnson, Dickens, Cruikshank, Thackeray, costume plates, Shakespeare folios; the William Henry Hoyt Collection of French History (Napoleon and his times); the Nolen Collection of city and regional planning; the Chester N. Gould Collection of Scandinavian literature and philology; the Preston Davie Collection of Raleighana, Caroliniana, and Early Americana; the Bruce Cotten collections of North Caroliniana; the Archibald Henderson Collection of Materials Relating to George Bernard Shaw; the Samuel A. Tannenbaum Shakespeare Collection; the Bowman Gray collection on World War I and II; the Burton Emmett Collection of Graphic Arts; the Thomas Wolfe Collection; together with unusual collections of American drama, dramatic manuscripts, Spanish drama, Folklore, Latin American studies, Southern literature, Romance languages, and maps.

The Library, a member of the Association of Research Libraries and the Association of Southeastern Research Libraries, has extensive bibliographical resources, including The North Carolina Union Catalogue. The libraries of the three University campuses, together with the Duke Library, have published union checklists of their holdings in certain broad fields such as science and social sciences. Other checklists are projected. In 1955 an intercampus borrower's card for faculty and selected graduate students was inaugurated. Frequent messenger service, including truck delivery, and a cooperative acquisitions program further cement interlibrary relationships in the region. The Interlibrary Center handles all borrowing and lending services with other libraries and individuals by mail. The Library Photographic Service serves further to meet immediate needs for scarce research material.

Except for libraries of the Division of Health Affairs (Medicine, Public Health, Nursing, Dentistry, Pharmacy) and Law—which are fully accessible to the entire campus—the University Library system is under the centralized administration of the University Librarian. In addition to the rooms and collections already listed in the Louis Round Wilson Library building, the University Library includes the following professional and special libraries: Art, Botany, Chemistry, Geology, Mathematics-Physics, Music, and Zoology. Staffed by non-Library personnel are two departmental collections, Institute of Government and Library Science.

THE UNIVERSITY EXTENSION DIVISION

Charles Fremont Milner, *Director*
Dwight Carroll Rhyne, *Associate Director*
Eugene Ray Watson, *Associate Director*

General Statement

"It shall be the duty of the faculty of the University to extend its influence and usefulness as far as possible to the persons of the state who are unable to avail themselves of its advantages as resident students, by extension courses, lectures, and by such other means as may seem to them most effective."—General Statute of North Carolina, Section 116-15.

The primary function of the Extension Division is to administer the University's program of credit and non-credit instruction to qualified adult part-time students. The credit program consists of regular University courses offered by members of the faculty through correspondence and television and in classes on and off the campus at times and places convenient to adults. The non-credit program consists of conferences, institutes, short-courses, and reading-discussion courses offered in Chapel Hill and in communities throughout the state by University schools and departments. In addition, the Division provides certain educational services to the public schools, and to organizations and agencies engaged in adult education activities. Objectives of the Extension Division are: (1) to offer graduate and undergraduate credit courses taught by regular University faculty members to qualified non-resident adult students, maintaining the same high standards of scholarship characteristic of the resident programs of instruction; (2) to relate the work of the University to the life, work, and roles of our adult population through a broad program of non-credit residential and community adult education; and (3) to expand the boundaries of knowledge through research in the field of adult education.

The Extension Division is an integral part of the academic organization of the University. The Director is responsible to the Provost of the University for the administration of the Division. Major administrative decisions are made with the advice of the Administrative Board. In addition to the director, the Extension Division staff includes two associate directors, five administrative heads of bureaus, a civil defense education coordinator, a director of Institutes of Civic Education, a head of the Office of School Services, and thirty supervisory, clerical, technical, and secretarial personnel, and eight part-time employees. Bureaus of the Division include Audio-Visual Education, Class Instruction, Evening College, Community Adult Education, Correspondence Instruction, and Residential Adult Education. In addition, there is an office of School Services.

Bureau of Audio-Visual Education

KENNETH MURCHISON MCINTYRE, *Head*

The audio-visual materials and services of the Bureau of Audio-Visual Education are available to the faculty, students, and adult groups on the campus of the University as well as to public schools, institutions, agencies, and organizations in the state.

An Audio-Visual Materials Laboratory is available to students, faculty, and adult groups for previewing and evaluating 16mm sound educational films, filmstrips, and magnetic tape and disc recordings. These services are available to the faculty for selecting audio-visual materials or to student groups for extra-class viewing and listening.

Graphic arts facilities, sound on film recordings, and transparency production facilities for preparation of specialized teaching materials are available upon request. Duplication of recorded programs on magnetic tape from local and national collections may also be secured.

Consultation and research on the utilization and preparation of audio-visual materials and related media are conducted by the Bureau of Audio-Visual Education. The following kinds of consultant services are available upon request: survey and evaluation of classrooms and recommendations for improving physical facilities for more effective use of audio-visual materials; counseling on specific problems involving design of audio-visual facilities in new buildings and the selection of audio-visual equipment for classroom instruction or special needs; and assistance in developing techniques for using audio-visual materials on television.

Film forums, for adult study groups using audio-visual materials, in the areas of international relations, problems of world peace, music, art, and human relations may be arranged to suit the needs of individual groups.

The Bureau of Audio-Visual Education operates an adult film service in cooperation with the State Library and the North Carolina public libraries. Films for community programs, business and industry, and other adult groups are made available through public libraries participating in this project. Detailed information will be furnished anyone interested in this service.

These film rental and tape recording programs are described in the University Extension Bulletin, Vol. XLIII, No. 1, *Audio-Visual Materials for Schools, Colleges, Churches, and Adult Study Groups.*

Bureau of Class Instruction

DWIGHT C. RHYNE, *Head*

The primary function of the Bureau of Class Instruction is to provide classes for college credit in extension. This function is divided usually into two divisions: the Evening College which meets its classes

on the campus in the evenings; and in-service classes in Education for public school teachers held in the state in various centers.

The Evening College is a comparatively new function of the Extension Division which has met with unusual success in its program. Through the College students may earn as many as sixty semester hours toward an undergraduate degree. All classes are taught by University instructors using University facilities under University regulations.

In-service classes in Education are offered through the Bureau of Class Instruction by the School of Education. These classes are designed to improve professional competencies of public school teachers and administrators, to provide opportunity to work toward an advanced degree, and to renew professional teaching certificates. Graduate centers are located at Charlotte, Winston-Salem and Kinston in addition to extension centers from time to time in other cities of the state. Courses in all other departments may be offered to interested groups.

This Bureau also renders a service to various departments on the campus by providing the means for offering courses which do not fit regular University channels. Examples of this are courses for instructors of driver training, National Science Foundation grants for teachers of science, public health nursing courses, and many others.

Bureau of Community Adult Education

EUGENE RAY WATSON, *Head*

The principal objective of the Bureau of Community Adult Education is to relate the work of the University to programs of adult education sponsored by institutions and organizations in communities throughout the state. Study guides developed by members of the faculty are offered to individuals and groups. Special programs of continuing education for alumni are planned The Bureau cooperates with other institutions and organizations in training discussion leaders.

Local organizations may look to the Bureau for information on various state and national programs of liberal and citizenship education for adults. It serves as a clearing house for the exchange of ideas and experiences in continuing education. Personnel in the Bureau experiment with new programs, conduct research in adult education, and offer consultative services.

Bureau of Correspondence Instruction

MARY ELIZABETH HENRY, *Head*

For those students who cannot attend regular classes, the Bureau of Correspondence Instruction makes available by correspondence study more than one hundred University courses, written and taught by regular faculty members or qualified specialists approved

by the Chancellor. Detailed information concerning these courses is contained in the Catalogue of Correspondence Instruction. Courses are available for those interested in degree credit, teachers' certification credit, professional advancement or personal enjoyment. A special USAFI bulletin is printed for those in military service.

The University of North Carolina accepts a maximum of thirty semester hours' credit by correspondence toward an undergraduate degree. The last year's work must be taken in residence, but occasionally two courses may be taken by correspondence from this University during the senior year.

Credit courses by television are made available through the University of North Carolina Educational Television stations and the Bureau of Correspondence Instruction. These courses aer based on correspondence courses or especially prepared syllabi.

Bureau of Residential Adult Education

WILLIAM HENRY HERIFORD, *Head*

The Bureau of Residential Adult Education initiates and sponsors or co-sponsors non-credit adult education programs on the University campus. It offers consultative and administrative services to other divisions and departments of the University in their continuing education programs, and to organizations outside the University interested in adult education programs to be conducted on the campus. During the school year 1965-1966 more than 89 conferences, seminars, and short courses were conducted through the Bureau. Over 9,000 adults spent 1,283 conference days in study and training.

The Bureau, in cooperation with the schools and colleges of the University, is able to make available intensive educational programs offered by members of the University faculty and utilizing University facilities. These residential programs are administered by the Bureau and academically supervised by the schools and departments of the University, thus maintaining the traditional University standards for adults who wish to continue their education.

Office of School Services

ELMA RODERICK PROCTOR, *Head*

The University Extension Division, through this office, offers services to the schools primarily through the following activities: (a) state-wide high school debating contests; (b) state-wide high school contests in academic subjects; (c) standardized test and materials.

The North Carolina High School Debating Union is the medium through which assistance in debating is offered. This organization was established in 1912-1913. Approximately one hundred high schools, represented by four debaters each, discuss some important question

annually. The debating teams which win both in the Local Round-Robin contests and in the district contests come to the University each spring to compete in the final contests for the Aycock Memorial Cup. The Debate Union is conducted in cooperation with the speech division of the Department of English, with Dr. Edward M. Collins, Jr. as the director.

High school contests in academic subjects are conducted each year in Latin (three divisions), Spanish, French, physics, biology, and chemistry. Renewable tuition scholarships in the University are offered under certain conditions to the winning students in these contests. The academic contests are conducted jointly by this office and by the several University departments concerned.

The better known and most valuable standardized educational tests are collected here for prompt distribution on a non-profit basis to authorized educational agents. Both time and transportation costs may be saved by ordering from this office.

A committee composed of members of the staff of the School of Education serves in an advisory capacity in evaluating new releases and in approving those materials best suited to meet specific needs in different school situations.

Tests may be examined and compared in 202 Abernethy Hall and the staff will gladly assist in helping to work out a well-rounded program. A catalogued listing of the tests and materials may be had by writing to the Office of School Services, 202 Abernethy Hall, Chapel Hill, N. C. 27514.

COOPERATIVE UNIVERSITY SERVICES[1]

Bureau of Business Services and Research

REX SHELTON WINSLOW, *Director*

Extension of educational resources of the University to business and industry is accomplished by means of cooperative arrangements with the Bureau of Business Services and Research of the School of Business Administration. (See section of catalogue on the School of Business Administration for a description of this agency.) The Extension Division co-sponsors and services many of the adult education programs for businessmen developed by the bureau.

The most frequent types of programs are "Management Institutes" which are conducted annually in conjunction with trade associations of various lines of business such as bankers, realtors, printers, oil jobbers, etc.

The School of Business Administration has reserved specially equipped rooms and facilities for adult education programs. These facilities are available to the Extension Division.

1 Heads of these services are responsible to their respective departments, schools, and divisions.

The Communication Center

WESLEY H. WALLACE, *Director*

The Communication Center is a laboratory of the Department of Radio, Television, and Motion Pictures, and offers services to the campus and the state through such divisions as the Radio Division, which includes WUNC (FM); the Motion Picture Division; the Television Division, which includes closed circuit origination, the initiation of dramatic programs on the Chapel Hill campus, and the development of new television services; the Recording Laboratory; and the Photographic Laboratory. Through these and other means it provides an extension of the University. (See Communication Center, page 373.) By means of these communications tools and WUNC-TV, much of the University's vast well of knowledge may be visualized, auralized, and distributed throughout North Carolina, providing a wide educational opportunity for those who wish to learn.

Bureau of Community Drama

JOHN WILLIAM PARKER, *Director*

The services of the Bureau of Community Drama are available to all schools, colleges, and communities throughout the state. Suggestions and advice on play production and direction may be obtained from this bureau.

Assistance is given in organizing, play selecting, the designing and making of scenery, costuming, make-up and lighting. Arrangements may be made for assistance in the direction of a chosen play.

By giving practical assistance to those interested in writing and producing plays, the bureau is seeking to promote and encourage dramatic art in the schools and communities of North Carolina and to stimulate interest in the writing of native drama.

The head of the bureau serves as executive secretary of the Carolina Dramatic Association.

Bureau of Educational Research and Service

NORTON L. BEACH, *Director*

The bureau is maintained through the cooperation of the School of Education. The several members of the faculty of the School offer to the state the following services: educational tests and measurements; school surveys; teachers' appointments; advice and counsel with reference to school buildings, equipment, and general administrative problems.

Bureau of Recreation

HANSON DOUGLAS SESSOMS, *Director*

This bureau offers services in public recreation and leisure problems through the Curriculum in Recreation Administration. Biblio-

graphies and reading lists on the subject of recreation are provided upon request. The bureau head serves as consultant to the North Carolina Recreation Commission.

THE UNIVERSITY NEWS BUREAU

Alfred Guy Ivey, *Director*
Demont Roseman, *Public Information Officer, Division of Health Affairs*
Wesley Lefler, *Editor*

The News Bureau is the official information agency of the University.

Its functions are to: (1) seek information about events in the University, (2) consult and advise with faculty members, administrators, and others on public information responsibilities, (3) maintain a central repository of information about the University, (4) prepare information obtained by professional and technical specialists in the University and re-write it in terms suitable for use in the mass media of public communication, (5) maintain contact with public news media (newspapers, radio, television, magazines) in making known to the public the activities, policies, goals, and accomplishments of the University and the people associated with it, and (6) perform certain functions related to specific University publications.

An important facet of the News Bureau operation is the principle that no censorship is exercised. The University adheres to the public policy of "free access to information." Faculty members, administrators, and others are urged to cooperate with representatives of news media, through the News Bureau or directly, in answering questions relating to activities in the University. The frank and uncensored access to the facts—whether or not they are favorable to the University—gives confidence in the forthright public relations policy of the University. In brief, the information program operates on the premise that it has an obligation to mirror the life of the University community in perspective, and that it is also good public relations procedure to follow that policy.

This stated policy is limited only by the necessity at times to protect individual human rights, as in the case of preserving a student's anonymity in a matter involving the honor code, or not releasing, against their will, information about patients in the N. C. Memorial Hospital. The policy is likewise limited in matters affecting national security or professional ethics.

The University News Bureau also engages in special promotional efforts to emphasize the achievements of the institution, its faculty, and its programs. This is done by writing news stories, feature articles, radio-television scripts, and sending out photographs to show the work of the University.

THE UNIVERSITY OF NORTH CAROLINA PRESS

LAMBERT DAVIS, *Director*
PORTER COWLES, *Assistant Director*
LESLIE E. PHILLABAUM, *Editor-in-Chief;* JOYCE KACHERGIS, *Art Director;* MURRELL BOYD, *Sales Manager;* HELEN PARKER, *Advertising and Promotion Manager;* ROY ALEXANDER, *Accountant*

The University of North Carolina Press was incorporated on June 12, 1922. The objects for which it was established are (1) to publish periodicals devoted to the advancement of learning and produced at the University by or under the direction of the faculty; (2) to publish catalogues, bulletins, and other documents pertaining to the University and its various schools and departments; and (3) to promote generally, by publishing deserving works, the advancement of the arts and sciences and the development of literature.

The Press was established under the authority of the Board of Trustees of the University. It is a non-stock corporation, organized under the laws of North Carolina, whose policies are determined by a Board of Governors appointed by the Board of Trustees and acting under the authority of the Chancellor and the President.

The Press has published approximately fifty books per annum during recent years. The Press also publishes the following periodicals: *The Journal of the Elisha Mitchell Scientific Society; Studies in Philology; The High School Journal; Social Forces; The North Carolina Law Review; The University of North Carolina Record;* and the following monograph series: *The James Sprunt Studies in History and Political Science; Studies in Romance Languages and Literature; Studies in Germanic Languages and Literature; Studies in Comparative Literature; Studies in Business Administration;* and *The University of North Carolina Monograph Series in Probability and Statistics.*

The Press publishing offices are located in Bynum Hall. The following agents represent the Press outside the United States: Ryerson Press, Canada; Oxford University Press, United Kingdom and Eire; Oxford University Press and Feffer and Simons, Inc., all other areas; Cambridge University Press, periodicals in the British Isles.

A complete list of publications issued by the Press, and seasonal catalogues of new publications, will be supplied without charge to any address on request.

THE UNIVERSITY TESTING SERVICE

James W. Little, *Director*
Earl J. Spence, *Assistant Director*
Daniel W. Campbell, Jr., *Statistician*
June C. Allcott, Richard F. Allen, William L. Latham, Jane A. Spanel, Allen P. Wadsworth, Jr., *Vocational Counselors*
Mildred F. Woodward, *Chief Psychometrist*
Sarah H. Wooten, Caroline R. Barrie, *Psychometrists*
Glenda W. Lippard, Carol B. Oldham, Sara Aja, *Secretaries*
Ray V. Beatty, Gloria H. Blanton, Carol P. Spangler, John G. Way, *Personnel and Guidance Interns*

The University Testing Service was established in 1937 primarily for the purpose of administering and scoring tests and for test research. Its activities were greatly expanded beginning in 1945, as the result of a contract with the Veterans Administration to provide vocational guidance for veterans. Since that time, more than 12,000 veterans, many of them partially disabled, have been tested and counseled. As the result of a decision by the University to extend these same services without charge to students, vocational counseling of University students has become one of the major functions of the University Testing Service. More than 7,000 University students have received a comprehensive battery of tests and a series of interviews with vocational counselors on the Testing Service staff. The guidance program for students has been especially designed to be of maximum assistance to those students who have been unable to select a suitable academic major, who are uncertain about their vocational choice, or who are encountering academic difficulties. Appointments for counseling may be made at the Reception Office, 019 Peabody Hall.

In addition to test scoring, research, and counseling functions, the University Testing Service has engaged in several closely related activities. A cross-indexed occupational information library is maintained for the use of University students who wish to acquire detailed information regarding job requirements, duties, rates of pay, training courses, and employment outlook. The University Testing Service is an approved agency for the administration of twelve national testing programs and participates in testing projects sponsored by other universities and colleges and by such organizations as the State Department of Public Instruction and the U. S. Office of Education. The Reading Program is described separately on page 370.

The University Testing Service cooperates with schools and departments of the University in administering, scoring, and interpreting tests; arranging for specialized testing programs; compiling and analyzing test data; and reporting the results of testing and counseling for students who request it after completing the vocational guidance program.

Reading Program

PHINNEY CAMPBELL, *Director*

JOEL F. MOODY, JR., DONALD N. SMITH, JR., AUGUSTUS M. BURNES III, WILBUR A. CASTELLOW, MARIA A. GRANT, ELIZABETH L. VANESS, *Reading Instructors*

The Reading Program offers a non-credit course in the improvement of reading and studying efficiency, open to any student interested in improving these skills. Application can be made at any time during the regular academic year or during the summer sessions at the Reading Program Office, Room 106, Peabody Hall. The course begins with individual diagnosis of reading and study habits and continues until each student reaches the desired level of improvement, some attending for a minimum of ten weeks and others remaining one or more semesters. The course is essentially laboratory in nature with each individual concentrating on those reading or studying skills he wants or needs to improve. The Reading Program cooperates with schools and departments of the University in administering, scoring, and interpreting diagnostic reading tests. The staff is also available to help students who have specific problems in reading and studying and who are unable to enroll in the regular program.

INSTITUTE OF GOVERNMENT

JOHN LASSITER SANDERS, *Director*

PHILIP PALMER GREEN, JR., DONALD BALES HAYMAN, MILTON SYDNEY HEATH, JR., HENRY WILKINS LEWIS, JOHN LASSITER SANDERS, *Professors;* CHARLES EDWIN HINSDALE, BEN OVERSTREET, JR.,[1] ROBERT EDWIN STIPE, MASON PAGE THOMAS, JR., LEWIS POINDEXTER WATTS, JR., *Associate Professors;* ALLAN ASHMAN, WILLIAM AUBREY CAMPBELL,[2] GEORGE ALLEN COLTRANE,[3] JOSEPH STEVENS FERRELL, DOUGLAS RADCLIFFE GILL, S. KENNETH HOWARD, BEN FOHL LOEB, JR., JOHN TAYLOR MCMILLAN, ALLAN WHITLOCK MARKHAM,[4] ROBERT EDMOND PHAY, DAVID GRANT WARREN, WARREN JAKE WICKER, *Assistant Professors;* DOROTHY JANE KIESTER, ELMER ROSENTHAL OETTINGER, JR., NORMAN ERNEST POMRENKE, *Lecturers;* GEORGE MONTGOMERY CLELAND,[5] RICHARD RALEIGH MCMAHON, LEE THOMAS QUAINTANCE,[6] *Instructors;* MRS. REBECCA BALLENTINE SCOGGIN,[7] *Librarian*

The Institute of Government of The University of North Carolina at Chapel Hill has a two-fold educational mission. First, it seeks to help public officials and employees learn to perform more effectively the tasks of governing the State of North Carolina and its cities and counties. Second, it seeks to increase public understanding of state and local government.

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1. Absent on leave, February 1, 1966 to January 31, 1967.
2. Resigned September 30, 1966.
3. Resigned June 6, 1966.
4. Resigned June 30, 1966.
5. Appointed August 15, 1966.
6. Appointed September 1, 1966.
7. Appointed December 16, 1965.

From its beginnings in the classroom of Professor Albert Coates thirty-five years ago, the Institute of Government has become the largest and most diversified of the sixty university-based governmental training and research organizations in the United States. It is one of the important means by which the University maintains its long tradition of service to the people of North Carolina.

The Institute of Government carries out its task of governmental education and assistance in several ways. Chief among them are teaching, research and publishing, and advisory and other professional services. While necessarily concerned with questions of public policy, the Institute leaves to others the initiation and advocacy of changes in policies and programs of government.

Teaching activities of the Institute of Government take the form of intensive courses of short duration, primarily designed for the in-service training of elected and appointed officials—state, county, and municipal—including mayors, councilmen, city managers and department heads, county commissioners, city and county attorneys, tax supervisors (assessors) and collectors, finance officers, planning officials, judges, prosecuting attorneys, state and local law enforcement officers, correctional agency personnel, welfare directors, public health officers, state departmental administrators, and many other groups. Some courses are designed to introduce the new official to the responsibilities of his job; others are designed to help experienced officials increase and up-date their knowledge of the laws they administer and of methods of administration. Courses range in length from a few days to thirteen weeks.

Over 7,000 people attend Institute schools and conferences in Chapel Hill each year; many others are reached through district schools.

Although the Institute itself offers no courses for degree credit, its staff members teach courses in several schools and departments of the University. They also provide instruction and assistance for professional associations of governmental officials and for various citizens' groups.

Research and writing are important activities of the Institute staff. Publications of the Institute include textbooks, casebooks, manuals, monographs, reports, bulletins, and a magazine. Many Institute research projects are undertaken on the initiative of staff members; others are conducted on request of governmental agencies or associations of officials.

Popular Government, the Institute magazine, carries timely articles on governmental subjects of interest both to public officials and to laymen.

Advisory and other professional services are rendered to state and local officials and agencies on request, and constitute both a useful form

of aid to these officials and agencies and a valuable means of increasing the competence of Institute staff members.

To conduct these programs, the Institute of Government has a full-time professional staff of twenty-six. The public law orientation of the organization is reflected in the fact that three-quarters of the professional staff members are lawyers. Other disciplines represented in the Institute include political science, social work, city planning, police administration, and psychology. Faculty members from other parts of the University and experienced public officials also serve as instructors in Institute schools and conferences, supplementing the Institute's own staff.

The Department of Political Science and the Institute of Government

The Institute of Government is the University's principal agency to provide training, consulting and research services for state and local governments in North Carolina. As one of the oldest university-based governmental research and training organizations in the United States, the Institute has gained distinction for the high quality and diversity of its professional staff and for the comprehensive character of its program.

Recognizing their strong mutual interest in encouraging fuller understanding of and improvement in government and public administration in North Carolina, the Institute and the Department of Political Science work together in pursuing these ends. They collaborate for example in offering the professional training program leading to the Master of Public Administration degree. Several members of the Institute faculty regularly teach courses in this program. Institute staff members also carry major responsibility for placing and supervising MPA students during their internship assignments.

In addition, Institute staff members teach other courses for the Department of Political Science and from time to time serve on thesis and dissertation committees. On occasion, a political science faculty member or advanced graduate student joins the Institute staff on a part-time basis to pursue research important to the Institute's program. Finally, political science graduate students regularly make use of the Institute's library collection of state and local government research materials and call upon Institute faculty for informal consultation and guidance in their research. In short, the Department of Political Science finds the professional staff, the program and the facilities provided by the Institute of Government a major resource supporting creative scholarly work in American government and public administration.

Other Departments and the Institute of Government

In a similar fashion, members of the Institute of Government faculty are teaching courses in which they have special competence in other departments of the University—in the Department of City and Regional Planning, in the School of Social Work, in the School of Education, in the Extension Division, and in the Division of Health Affairs.

COMMUNICATION CENTER

WESLEY H. WALLACE, *Director*
ROSS E. SCROGGS, JR., *Associate Director; Director of Photography and of Motion Pictures*
EARL WYNN, *Associate Director; Project Director*
JOHN S. CLAYTON,[1] *Director of Television*
ERIC F. PRICE, *Visiting Director of Television*
WILLIAM M. HARDY, *Director of Writing*
ROBERT J. GWYN, *Director of Radio and of Closed Circuit Television*
DONALD B. UPHAM, *Director of Operations*
GEORGE B. GRILLS, JR., *Associate Director of Operations*
RALPH G. DENNIS, *Project Director*
FRANK E. BEAVER, *Project Director*
JOHN E. YOUNG, *Consultant*

The Communication Center is administered by the faculty of the Department of Radio, Television, and Motion Pictures. It functions as a production and research laboratory of the Department and offers services in radio, television, motion pictures, and photography to the campus and the state.

Radio Division

Since 1946 a radio production laboratory has been operated by the Department as a teaching and service function. It has originated numerous programs for the National Association of Educational Broadcasters radio network, for the National Broadcasting Company, for the United States Information Agency, and for other commercial networks and stations.

Since 1952, a noncommercial educational radio station, WUNC (FM), licensed by the Federal Communications Commission to The University of North Carolina at Chapel Hill, has been operated as a training and service agency. The staff is composed of students participating under faculty supervision. In addition to programs originating in Chapel Hill, the station broadcasts features of the British Broadcasting Corporation, the French Broadcasting System, and other United States and foreign production agencies.

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1 Absent on leave, September 1, 1966 to August 31, 1967.

Television Division

In 1960 a television laboratory was formed for purposes of student instruction, program experimentation and development, and research. The laboratory is responsible for the planning of new television services in Chapel Hill, for television drama originating from the Chapel Hill campus, and for closed circuit television. The staff also experiments with and does research in various types of programs with intent to contribute to the field of television and the training of advanced television students.

WUNC-TV, the Channel 4 educational television station, is licensed to the consolidated University of North Carolina. For detailed information see Television Station WUNC-TV.

Motion Picture Division

As a teaching and service agency, the Department operates a sound stage, control room, and cutting room for motion picture production, instruction, research, and experimentation. Cameras and editing equipment for both 16mm and 8mm work are available. Films are produced to serve educational purposes and to train advanced motion picture students.

Photographic Laboratory

The only unit of the Communication Center which is not operated as a laboratory function of the Department, the Photographic Laboratory represents a complementary medium of communication and often functions as a training laboratory for students in photography in the University. The laboratory serves the ever increasing and complex photography needs of departments and divisions of the University.

Recording Laboratory

The studios of the Department are equipped to record on tape or disc, or to make transfers from tape, disc, or film, including synchronous tracks for films.

Studio services are frequently supplied, chiefly to educational units and to students and faculty members.

Research

Research in the mass media is carried on through the cooperative efforts of production experts and social scientists.

COMPUTATION CENTER

JAMES WILLIAM HANSON, *Director*

The Computation Center of The University of North Carolina at Chapel Hill is located in Phillips Hall. During 1966 an IBM System /360, Model 30 will replace a Univac 1105 Data Processing System which was installed in 1959. The IBM Model 30 will also serve as a remote input-output terminal connected to the Triangle Universities Computer Center's IBM System 360, Model 75 located in the Research Triangle Park.

The facilities and personnel of the Center are available to assist in computer-oriented education and research throughout the University. The Center maintains a close working relation with the Department of Information Science and actively participates in the academic work of the department. Center personnel participate in courses in a number of other academic departments in which the computer is used as a tool. From time to time, short service courses in programming are given by the staff of the Computation Center to assist faculty members and students in programming their problems for processing on the computer.

The Computation Center programming staff carries on continuing work in program research and development aimed at making the computer a more effective tool in problem solving and more readily accessible to University users. A variety of specialized programming languages has been made available as well as generalized programs for the solution of problems in the fields of statistics, numerical analysis, artificial intelligence, etc. The staff is also responsible for developing and implementing major business data processing systems (payroll processing, accounting, etc.) which are used by the administrative staff of the University.

The Director of the Computation Center reports to the Vice Chancellor for Advanced Studies and Research.

THE DEPARTMENT OF ATHLETICS

Administration

CHARLES PERRY ERICKSON, *Director*
WALTER WAGNER RABB, *Assistant Director*
JOSEPH TRUMAN HILTON, *Freshman Director*
VERNON BALDWIN CROOK, *Business Manager*
ERNEST WARRINER WILLIAMSON, *Executive Secretary of Educational Foundation*
JACK EDGAR WILLIAMS, *Director of Sports Publicity*

Coaching Staff

WILLIAM GERALD DOOLEY, *Head Football Coach*
ERNEST WARRINER WILLIAMSON, THURMOND L. COLLINS, JR., JAMES EDWARD CARMODY, JR., RONALD MICHAEL DEMELFI, LEE REED HAYLEY, FREDERICK OTTO MUELLER, VICTOR Z. SPOONER, JIMMY FRANKLIN VICKERS, WILLIAM KENNETH HICKMAN, *Assistant Football Coaches*
DEAN EDWARDS SMITH, *Head Basketball Coach*
JOHN CALVIN LOTZ, *Assistant Basketball Coach*
LAWRENCE HARVEY BROWN, *Assistant Basketball Coach*
ERNEST MARVIN ALLEN, JR., *Head Soccer Coach*
SAMUEL GILL BARNES, *Head Wrestling Coach*
PATRICK FRANCIS EAREY, *Head Swimming Coach*
JOSEPH TRUMAN HILTON, *Head Track Coach*
BOYD LEE NEWNAM, *Assistant Track Coach*
EDWARD MARTIN KENNEY, *Head Golf Coach*
ROBERT HOWARD DILLARD, *Freshman Golf Coach*
DONALD EDMUND SKAKLE, *Head Tennis Coach*
WALTER WAGNER RABB, *Head Baseball Coach*
JAMES JOSEPH BISCHOFF, *Head Lacrosse Coach*
JOHN E. LACEY, *Head Trainer*
ERNEST OAKLEY PICKARD, *Assistant Trainer*
MICHAEL Z. RONMAN, *Staff Photographer*

The University of North Carolina at Chapel Hill Department of Athletics has consistently sought to conduct a sound and comprehensive program of sports to meet the varied needs of the student body. Superior facilities and equipment are provided for the operation of intercollegiate competition in a program of twelve varsity sports and twelve freshman sports. A dedicated, experienced, and well-trained permanent staff of coaches provides the instruction and leadership in a program which annually produces high ranking teams.

The major portion of each schedule consists of contests within the Atlantic Coast Conference. Additional contests are arranged annually with institutions of comparable rank and standards from other sections of the country.

The intercollegiate program operates under the regulations of the University, the Atlantic Coast Conference, and the National Collegiate Athletic Association.

The administration and the faculty endorse and sanction intercollegiate athletics as an extracurricular activity with many positive outcomes for the student body and the University. In addition, it provides a strong and enduring bond between the University and its alumni.

In view of this, constant effort and attention are directed toward providing a broader and more efficient program for the participation of the student body and the enjoyment and entertainment of the faculty and alumni.

CULTURAL AGENCIES AND CENTERS

ESTABLISHED LECTURES

NORVALL NEIL LUXON, *Chairman,* ROBERT L. DAVIS, CARL H. PEGG, BERNARD BOYD, CHARLES C. HOLLIS, ISAAC M. TAYLOR, GEORGE KENNEDY

The John Calvin McNair Lectures

This lectureship on the relationship of science and theology was founded through a bequest by the Reverend John Calvin McNair of the Class of 1849. The series was inaugurated in 1908 by Francis H. Smith, the first in a line of eminent thinkers which has included Henry Van Dyke, Arthur Twining Hadley, John Dewey, Roscoe Pound, William Louis Poteat, Harris Elliott Kirk, Robert Andrews Millikan, George F. Thomas, Arthur H. Compton, Kirtley F. Mather, William Ernest Hocking, Edmund W. Sinnott, Charles A. Coulson, Robert Oppenheimer, H. Bentley Glass, Frank D. Drake and Laurence M. Gould.

The Weil Lectures

An unendowed lectureship on American citizenship was established by the University during the year 1914-1915. The families of Sol Weil and Henry Weil of Goldsboro later generously endowed the lectures as an annual series called the Weil Lectures on American Citizenship.

William Howard Taft delivered the first lectures. A group of distinguished world citizens has followed him, including William Bennett Munroe, Edward A. Ross, William Allen White, Charles A. Beard, Harold J. Laski, Felix Frankfurter, and Henry Wallace. Among the more recent speakers have been T. V. Smith, Richard B. Tawney, Robert M. McIver, Eleanor Roosevelt, Edwin G. Nourse, Robert A. Taft, Zechariah Chafee, Jr., Galo Plaza, Carlos P. Romulo, D. W. Brogan, Barnaby Keeney, Christian H. Herter, James P. Baxter III, Mark Van Doren, Charles Malik, and James M. Gavin.

The Alumni Lectures

The Alumni Annual Giving Council makes contributions to a fund to be used by the several divisions of the University to invite outstanding lecturers to the campus. Departments desiring the use of these funds are requested to contact the Chairman of the Committee on Established Lectures.

THE CAROLINA PLAYMAKERS

HARRY ELLERBE DAVIS, *Director*
JOHN WILLIAM PARKER, *Associate Director and Business Manager*
TOM REZZUTO, JR., *Scene Designer and Technical Director*
IRENE SMART RAINS, *Costume Director*
FOSTER FITZ-SIMONS, RUSSELL GRAVES, KAI JURGENSEN, THOMAS M. PATTERSON, MARK A. SCHOENBERG, JOSEPH R. TALAROWSKI, *Staff Directors*

The Carolina Playmakers were founded in 1918 by Frederick H. Koch, and under his leadership achieved national recognition for promotion of native playwriting, particularly regional and folk drama.

Today the Playmakers serve two main purposes: (1) to provide a practical theatre laboratory for the students in the Department of Dramatic Art, established in 1936; and (2) to provide a Community Theatre Program for Chapel Hill and for the campus. Membership in the Playmakers is open to any student in the University, and to any citizen of the community. Acting roles are assigned by open competitive tryouts, and technical and managerial positions are filled by personal interview.

The Playmakers Theatre, one of the oldest buildings on the campus, was remodelled for its present purpose in 1925, and was the first permanent home provided by the state for any of the fine arts. Most of the Playmaker productions are presented in this charming small theatre, but occasional use is made of Memorial Hall for larger productions. The Koch Memorial Forest Theatre, in Battle Park, is frequently used for the final production each spring, and for summer productions. The production program each year includes five major productions, one of which is usually a new long play, two bills of original one-act plays, and two summer productions.

The Playmakers are closely associated with the state-wide Carolina Dramatic Association, and serve as hosts for its annual Spring Festival. They are also affiliated with the Southeastern Theatre Conference, the American Educational Theatre Association, the American National Theatre and Academy (ANTA), and the National Theatre Conference.

An annual Playmaker Mask Award is presented to members who have achieved a required number of activity points. For exceptional achievement over a longer period of time two special awards, the Master Award, and the Alumnal Award, are frequently given. Three playwriting awards, the Roland Holt Cup, the Joseph Feldman Award, and the Koch Memorial Scholarship, are available to students. Recently an annual fellowship award to a student whose work in Dramatic Art is outstanding, has been established by the William Morris Foundation. A similar graduate fellowship, in Playwriting, has been established by the Shubert Foundation.

THE MOREHEAD PLANETARIUM

ANTHONY FRANCIS JENZANO, *Director*

Gift of John Motley Morehead (1870-1965), Class of 1891, the building contains the Genevieve B. Morehead Memorial Rotunda, Faculty Lounge, University Room, and a dining room for official functions of the University. Among the paintings from the Morehead Collection permanently hung in the Rotunda are Rembrandt's portrait

of his sister and many valuable works by other masters. Two galleries flanking the Rotunda are used for temporary exhibitions of art and designing.

The scientific portion of the building contains the sixth Zeiss Planetarium installation of the Western Hemisphere, the first one in the world to be owned and operated by a university and the first one in the United States to be modernized with post-World War II improvements. A realistic reproduction of the sky of thousands of years past or hence as seen fom any position on earth is produced on the sixty-eight-foot perforated stainless steel dome of the chamber which seats 470 visitors in concentric circular rows. Spectacular productions given since opening on May 10, 1949, have included "Star of Bethlehem," "Worlds That Have Vanished," "Easter, the Awakening," "Spaceship to the Moon," and many planetary "Space Trips." Public demonstrations are given every evening in the week at 8:30; on Saturdays at 11:00, 1:00, 3:00, and 4:00; Sundays at 2:00, 3:00, and 4:00. Special presentations for school children are offered throughout the day on Wednesdays, Thursdays, and Fridays. A different program is presented each four or five weeks. The Planetarium is used also for University classes in astronomy and navigation. Special training for the United States Astronauts has continued since 1960. Special research in Bird Orientation has been conducted by Duke University scientists in the Planetarium. Science classes for school children and astronomy for teachers courses are also conducted periodically.

Special funds granted by the Morehead Foundation provide for installation of a new Model VI Carl Zeiss, West German Planetarium Instrument in the fall of 1968.

Throughout the Planetarium building are scientific exhibit areas, and a thirty-five-foot model of the solar system. In the first seventeen years of operation, 1,575,000 visitors attended the Planetarium presentations.

In the Planetarium garden, twenty-five varieties of roses and many other flowers and shrubs form a beautiful setting for the modern example of that most ancient of astronomical instruments, the Sundial.

The giant Sundial is another gift to the people of North Carolina from John Motley Morehead—University alumnus, industrialist, philanthropist, and founder of the scholarships that bear his name.

THE WILLIAM HAYES ACKLAND MEMORIAL ART CENTER

JOSEPH CURTIS SLOANE, *Director*
GAY HERTZMAN, *Acting Curator*
WANDA CALHOON, *Registrar*
ROBBIE NURNBERGER, *Preparator*

Dedicated on September 20, 1958, The William Hayes Ackland Memorial Art Center fulfills a long-standing need for the consolidation and expansion of art study and exhibition facilities. The late Mr. Ackland's bequest has provided accommodation for the Department of Art and galleries to house temporary exhibitions as well as a growing permanent collection. The Center also contains the Joseph Palmer Knapp rooms of antique furniture and decorative arts.

The Art Library and other study and research areas adjoin the lecture room and staff offices. Drawing, painting, design, sculpture, and ceramics facilities are located in the several studio classrooms.

In addition to the Center's collection of paintings, drawings, prints, furniture and other works of art, the Department of Art maintains a study collection of slides, photographs, and color reproductions.

The department sponsors a public evening sketch class each semester providing sufficient demand for it exists.

INSTITUTE FOR ENVIRONMENTAL HEALTH STUDIES

DANIEL A. OKUN, *Director*
STANLEY J. WEIDENKOPF, *Deputy Director*

The Institute for Environmental Health Studies was formalized as an official unit of the University on March 17, 1966. Its purpose is to provide within the University an interdepartmental organization for developing ways and means to increase the number and improve the quality of graduate students being prepared for teaching, research and practice in the various fields of environmental health. Graduate students, postdoctoral fellows and faculty are drawn from a wide variety of components of the academic complex. They may be scientists, engineers or physicians who have gone beyond their basic specialty and have undertaken further study in one of the specialty areas of environmental health. The units of the University that are actively participating in this program at the present time are: The Departments of Biostatistics, Environmental Sciences and Engineering, and Epidemiology of the School of Public Health; the Departments of Botany, Chemistry, City and Regional Planning, Geology, and Zoology of the College of Arts and Sciences; the School of Medicine; and the Department of Food Science at North Carolina State University at Raleigh. With the development and expansion of the Institute, it is likely that other units of the University will also participate.

Organizationally the Director of the Institute reports to the Vice Chancellor for Advanced Studies and Research. The Institute obtains

its normal day-to-day administrative and fiscal support through the School of Public Health.

THE NORTH CAROLINA ARCHIVE OF FOLKLORE AND MUSIC

WILTON MASON, *Director*
DANIEL W. PATTERSON, *Assistant Director*

The Archive was established in 1965, with the Arthur Palmer Hudson Collection as its nucleus, and is presently housed in the North Carolina Room of Wilson Library. Its goal is to provide a central depository for collections of folklore assembled in the state, to encourage further field collecting in North Carolina, and to offer a resource for research in folklore.

INSTITUTE OF NAVAL SCIENCE

REX W. WARNER, *Captain, U. S. Navy, Director*

Public Law 88-647 (Reserve Officers Training Corps Vitalization Act of 1964) authorized a new Two-Year Contract NROTC College Program leading to an officer's commission in the United States Naval Reserve/U. S. Marine Corps Reserve. The NROTC Unit at The University of North Carolina at Chapel Hill has been selected by the Navy Department to conduct an annual Naval Science Institute, normally coinciding with a session of summer school at the University, to prepare eligible candidates for the Two-Year Contract NROTC Program. These candidates are required to complete a special six-weeks summer training session and undertake those Naval Science courses normally studied by Contract NROTC Students during their freshman and sophomore years. Applications may be received each year at any NROTC Unit or U. S. Naval Recruiting Station from male sophomores in good standing at any accredited college, junior college or university, or from those who have satisfactorily completed at least two years of college work. While in the Institute, candidates receive pay of approximately $90 per month plus an allowance for quarters and subsistence. Travel expenses, tuition, fees, books, and necessary uniforms are provided by the Navy. All academic and military instruction is accomplished by the Department of Naval Science. Satisfactory participation in the Institute of Naval Science permits continuation as a Contract NROTC Student at the junior year level at one of the 52 participating NROTC colleges or universities providing the candidate has been previously accepted for admission.

CAROLINA POPULATION CENTER

MOYE W. FREYMANN, *Director*

The University of North Carolina has developed, at the University level, a comprehensive program of population studies. The Carolina

Population Center, directed by Dr. Moye W. Freymann, reports to the Vice Chancellor for Advanced Studies and Research. This Center helps to stimulate, support and coordinate studies on population dynamics and family planning throughout the University. It assists in building population research and teaching within the University departments, developing inter-disciplinary projects related to the population field, and maintaining relationships with other programs in North Carolina and abroad for study and service purposes.

The University-Level Advisory Board of the Carolina Population Center includes representation from several departments of the School of Public Health. The School of Public Health also has an internal committee for population studies. The Departments of the School that are actively involved in the Population Program include Biostatistics, Epidemiology, Maternal and Child Health, Health Education, Mental Health, Public Health Administration, and Public Health Nursing, as well as the Continued Education Program. During the year 1966-67 in these Departments there are twenty-three students who are specializing in the population field. They take basic public health courses and also participate in a special program of studies on population and family planning, drawing upon the School of Public Health, the Population Center and the Departments of Sociology, Obstetrics and Gynecology, and other Departments in the University.

RESEARCH INSTITUTES

INSTITUTE FOR RESEARCH IN SOCIAL SCIENCE

RICHARD L. SIMPSON, *Acting Director*
ELIZABETH M. FINK, *Assistant Director*

Research Staff

Research Professors: JOHN B. ADAMS, E. EARL BAUGHMAN, HUBERT M. BLALOCK, JR., CHARLES E. BOWERMAN, F. STUART CHAPIN, JR., W. GRANT DAHLSTROM, ARTHUR E. FINK, FEDERICO G. GIL, JOHN GULICK, AMOS H. HAWLEY, JOHN J. HONIGMANN, GUY B. JOHNSON, GERHARD E. LENSKI, NORVAL N. LUXON, DONALD R. MATTHEWS, JAMES J. MULLEN, JAMES W. PROTHRO, HARRIETT L. RHEINGOLD, HALBERT B. ROBINSON, RICHARD L. SIMPSON, HARVEY L. SMITH, JOHN W. THIBAUT, RUPERT B. VANCE, WESLEY H. WALLACE, GEORGE S. WELSH

Research Associates: EDGAR W. BUTLER, F. T. CLOAK, JR., BRUCE K. ECKLAND, WILLIAM G. FLEMING, RALPH A. GAKENHEIMER, MAEDA J. GALINSKY, GEORGE C. HEMMENS, HENRY C. HIGHTOWER, CHESTER A. INSKO, EDWARD J. KAISER, WILLIAM R. KEECH, RICHARD W. LIEBAN, LEWIS LIPSITZ, HALLOWELL POPE, WALTER A. SEDELOW, JR., JEAN H. THRASHER, J. RICHARD UDRY, SHIRLEY F. WEISS, JAMES, A. WIGGINS

The Institute for Research in Social Science, founded in 1924 by Howard W. Odum, was established to facilitate behavioral science research by faculty members at The University of North Carolina at Chapel Hill. Through the years the Institute has been a center for

nitiating, catalyzing, developing, and financing research in the social ciences. Much of its work has been in surmounting departmental oundaries and stimulating collaboration in interdisciplinary research rograms.

The Institute is also a service agency for research projects in social cience. Its services include secretarial and clerical assistance, data-rocessing equipment, data-processing consultation, support for grad-iate assistants, and the publication of research monographs and work-ng papers.

The Institute has an administrative board concerned with matters f policy and an advisory committee concerned with its implementa-ion. The administrative board is made up of senior faculty members, lepartment chairmen, and higher administrators. The advisory com-nittee is composed of senior faculty members representing depart-nents and schools served by the Institute. The advisory committee re-iews research proposals for which Institute sponsorship is requested.

The Institute's senior staff and junior staff each have about fifty nembers. The senior staff are faculty members, generally receiving alaries through their academic departments but having a reduced eaching load, who are carrying out social science research. New mem-ers are appointed to the senior staff by the Administrative Board on he basis of their written statements about the scientific problem hey wish to examine and the means of investigation they propose. Ap-ointments are usually for a year or the duration of a given research roject.

These are organized Institute programs in urban studies, organiza-ion research, political behavior, and health which provide a flexible ramework for the coordination and cumulation of research. Research ctivities need not fit under these rubrics, however, for many individual rojects are part of its program. The staff varies from year to year, sually including faculty from anthropology, city and regional plan-ing, economics, history, journalism, political science, psychology, so-ial work, and sociology.

The junior staff are graduate students with research or trainee ap-ointments in the social science whose stipends are paid from Institute unds or by Institute-sponsored research projects. Graduate appointees re selected through academic departments on the basis of the stu-lents' academic performance and promise and the availability of re-earch projects on which they could have experience relevant to their raduate training.

The Institute's statistical laboratory, equipped with calculators and lata-processing machines, serves both research and general instruc-ional purposes. The Institute's publications include *Research Pre-iews,* which is issued about three times a year and carries articles on he research of Institute staff members, and paperbound monographs nd working papers.

THE INSTITUTE OF MARINE SCIENCES[1]

ALPHONSE F. CHESTNUT, *Director*

Research Staff

Professors: ALPHONSE F. CHESTNUT, WILLIAM EARL FAHY, AUSTIN BEATTY WILLIAMS
Associate Professor: EARL EDWARD DEUBLER, JR.
Assistant Professors: JAN J. KOHLMEYER, HUGH JUDSON PORTER, WILLIAM JOSEPH WOODS
Consultant: ROBERT ERVIN COKER
Research Affiliate: GERALD S. POSNER

The Institute of Fisheries Research was established by action of the Board of Trustees September 29, 1947. Its inauguration was made possible by a four-year grant from the Knapp Foundation, Inc., of New York, conditioned on matching contributions from the state. The grant from the Knapp Foundation was "A tribute to Joseph P. Knapp's lifelong interest in the betterment of mankind." With the cooperation of the Department of Conservation and Development a building at Morehead City was made available for a research laboratory.

The relation of the Institute to the central administration of the University is similar to that of other departments of the University. An Executive Committee composed of five representatives from the University and two from the Board of Conservation and Development determines basic policies. Local administrative details are delegated to the Director and research staff at the Institute.

The purpose of the Institute is to endeavor, through scientific research, to arrive at a better understanding of the complex problems of marine science. Basic knowledge is needed concerning our natural resources in order to formulate principles that govern the application of conservation and management procedures for efficient utilization of the resources. This requires long-term studies of the physical, chemical and biological conditions and their influence upon life histories and behavior of various species of marine and estuarine organisms. Facts are needed, rather than casual theories or biased deductive reasoning, in formulation of regulations and legislation. Thus, within the limits of its staff and facilities the Institute serves the needs of the Department of Conservation and Development and the state in respect to immediate practical problems that arise.

Facilities of the Institute are made available to faculty and students of the University with research interests in marine biology, physical and chemical oceanography and related fields. The Institute staff contributes to the educational program of the University through lectures, seminars, and guidance of graduate students.

The major function of the Institute is research. Other important functions are to supplement the specialized training of graduate students in areas of marine biology and physical and chemical oceanography; to serve as a clearing house for scientific and other information

1. Formally the Institute of Fisheries Research.

needed in the management of marine resources; to cooperate in studies of socio-economic aspects of fisheries with the Department of Conservation and Development and with the Bureau of Business Services and Research in the School of Business Administration; and in general to serve the state as an agency for scientific research.

Upon recommendation of an academic department of the University and approval of the Administrative Board of the Graduate School, special courses and direction of graduate studies may be offered by members of the Institute staff. Courses in hydrobiology and marine ecology are described in Part IV of this catalogue under Department of Zoology.

INSTITUTE OF LATIN AMERICAN STUDIES

FEDERICO G. GIL, *Director,* JOHN D. MARTZ, *Assistant Director,* DAVID G. BASILE, BERTA BECERRA, HAROLD A. BIERCK, DONALD L. BROCKINGTON, CLYDE E. BROWNING, ROBERT T. DALAND, FRANK M. DUFFEY, WILLIAM S. FLASH, RALPH A. GAKENHEIMER, MICHAEL HALL, ARNOLD PERRY, LAWRENCE A. SHARPE, JAMES A. WOODS, RALPH LEE WOODWARD

Major functions of the Institute of Latin American Studies are: (1) to encourage and stimulate research in Latin American studies at the University; (2) to serve as an agency to provide means for cross fertilization among researchers from different disciplines, and when possible and desirable, for the synthesis of diverse personal and departmental interests in research; (3) to promote the exchange of scholars and students, and the establishment of close working relationships with institutions of higher learning in Latin America; (4) to serve as an agency to undertake surveys, analyses, or other contractual agreements relating to Latin America. Recent activities reflecting the role of the Institute include its direction of a Peace Corps Training Program and negotiation of an exchange and publication agreement with the Latin American Faculty of Social Sciences (FLACSO) in Santiago, Chile.

Major interest also centers upon undergraduate and graduate training in the area of Latin American studies. The Institute brings together the courses relating to Latin America offered in various departments of the University. It offers an undergraduate major, which is in effect also a major in one of the recognized departments. The Institute also offers programs in Latin American Studies for the master's degree (see statement in the offerings of the Department of Political Science, in Part IV). The undergraduate program of courses is intended to provide a basis for graduate work in Spanish, history, or political science. It will be of significant value to students who wish to enter the Foreign Service of the United States or to engage in Latin American trade and commerce.

The University of North Carolina at Chapel Hill has a rich library collection of Latin Americana, having benefited from grants through

the Rockefeller Foundation and the Carnegie Corporation. A considerable amount of recording equipment has been secured for intensive language instruction in Spanish and Portuguese, and the facilities of the Department of Romance Languages—recently expanded—are among the finest.

INSTITUTE OF NATURAL SCIENCE

EVERETT D. PALMATIER, *Associate Director*

The Institute of Natural Science is an administrative unit of The University of North Carolina at Chapel Hill which was founded in 1956 to promote research and to strengthen teaching in the natural sciences.

The entire faculty of the Division of Natural Sciences are members of the Institute.

Continuing activities of the Institute include: an editorial branch established to serve its members; a director of campus services and facilities available for research activities; a program, set up under the sponsorship of the Atomic Energy Commission, for the study of absorption of radioactive isotopes in clay minerals; Natural Science Foundation sponsored Academic Year and Summer Institutes for High School Teachers of Science and Mathematics, and other college-high school projects.

THE INSTITUTE OF OUTDOOR DRAMA

MARK R. SUMNER, *Director*

The Institute of Outdoor Drama, an affiliate of the Department of Dramatic Art, was founded in January of 1963 to answer the growing need for a central agency for outdoor drama activities throughout the country.

The outdoor historical play, or symphonic drama, was originated in North Carolina when Paul Green's *The Lost Colony* was first produced on Roanoke Island in 1937. Since that time, North Carolina, and particularly the University at Chapel Hill, have become known nationally as the center for definitive knowledge concerning this particular form of epic theatre. With the foundation of the Institute of Outdoor Drama, this fund of information and of authoritative personnel have been brought together into one central advisory agency for the benefit of the state of North Carolina and for numerous other communities throughout the country.

The basic purpose of the Institute is threefold:

1. The Institute considers as one of its major functions the stimulation of interest in outdoor drama. Realizing that any artistic form can exist and grow only with the continuing introduction of

people with fresh creative ideas, the Institute and its advisers make every effort to inform, place, and train new talent and to redirect established talent to the symphonic drama medium. The primary steps toward accomplishment of this aim have been to investigate any source possible for young people who might be interested in considering the outdoor drama as a field of endeavor. This has included efforts to reach not only institutions where the dramatic arts are being taught, but also business, advertising, architectural, design, and music schools and establishments. In addition, there has been a concentrated effort to interest personnel already established in the fields of composition, writing, and all phases of production to observe, advise, and participate in the creation of new dramas.

2. The Institute provides complete advisory service for every phase of planning and production of outdoor drama. People with established experience are made available for advice to, and employment with new groups and communities interested in future productions. A personnel file of available playwrights, designers, composers, choreographers, and other production personnel is maintained and made available by the Institute for this purpose.

3. The Institute serves as the definitive repository for information concerning the broad field of outdoor drama, not only in North Carolina and the southeastern United States, but throughout the nation. In addition, European and other world dramas are included within this category. The purpose of this information is not only the historical value of such a collection as an accurate reflection of the international outdoor drama movement, but the availability of the files as a guide to individuals or groups who propose the production of new outdoor dramas, or who are engaged in research or critical writing.

RESEARCH LABORATORY OF ANTHROPOLOGY

JOFFRE LANNING COE, *Director*
BENNIE C. KEEL, *Archaeologist*
BRIAN J. EGLOFF, *Assistant Archaeologist*
ROY S. DICKENS, JR., PATRICIA HOLDEN, OLIN F. MCCORMICK, VANCE P. PACKARD, JAMES J. REID, STEVEN F. SENSENIG, DAVID WOLF, *Assistants*

The Research Laboratories of Anthropology were established October 7, 1939, for the purpose of conducting basic anthropogical studies in the field of archaeology, ethnography, physical anthropology, and other related fields. Its program is essentially inter-departmental and serves to coordinate these activities among other organizations. It also serves as a central repository and research center. Its present collection exceeds 1,000,000 items and is considered to be one of the primary sources for archaeological research in the South. The offices and processing laboratories are situated in Person Hall, together with a series of exhibits dealing with anthropology and related earth sciences.

CONSOLIDATED UNIVERSITY OF NORTH CAROLINA AGENCIES

UNIVERSITY OF NORTH CAROLINA EDUCATIONAL TELEVISION

JOHN EARLY YOUNG, *Director of Television, The University of North Carolina at Chapel Hill*
JACK PORTER, *Director of Television, North Carolina State University at Raleigh*
EMIL WILLIAM YOUNG, JR., *Director of Television, The University of North Carolina at Greensboro*
ALAN BRIDGEMAN MACINTYRE, *Director of Engineering*

Engineering Office and Program Operations

ALAN BRIDGEMAN MACINTYRE, *Director of Engineering*
EUGENE C. DROGOS, *Administrative Assistant*
WILLIAM GOUR, EMMETT CLARK, PERLIE J. MODLIN, DONALD CALLAHAN, WILLIAM HALES, WILLIAM R. MURRAY, E. J. ALRED, G. F. WILLIAMS, WILLIAM V. ALLEN, ROBERT H. BOWDEN, EMMETT W. SULLINS, HAROLD L. WILLEY, DAVID F. YEAGER, *Television Engineers*
ROGER WILLIAM KOONCE, *Program Coordinator*
LILLIE D. TURNER, STEVEN JOEL DENNY, SALLY MCGEE NORD, VERA REISS DAVID, JEANNIE GRANT YEARGAN, MAURICE TALBOT, *Program Department*

Chapel Hill Studio

JOHN EARLY YOUNG, *Director of Television*
RUTH ANN FORD, *Administrative Secretary*
CHARLES RUSSELL HARDMAN, *Art Director*
JOHN WILLIAM HANNAH, DAVID JARMAN MILLER, R. D. JENNINGS, EDWARD DAVIS, *Television Producer-Directors*
PETER HEAPS, *Studio Engineer*
SANDRA COPELAND, *Secretary*

University of North Carolina Educational Television administers television broadcasts and related activities of the University of North Carolina.

Two non-commercial educational television broadcast stations are licensed to the University, and three additional stations are scheduled to begin operation during the 1966-1967 academic year. WUNC-TV began operating on January 8, 1955, and has broadcast a continuous schedule since that time from a transmitter site near Chapel Hill. WUNB-TV began operating on September 13, 1965, near Columbia, North Carolina. These two operating stations, as well as the three stations under development, will broadcast identical programming simultaneously. Programs originate in the studios on the University campuses at Chapel Hill, Greensboro, and Raleigh; through the facilities of a mobile studio operated for this purpose and through National Educational Television and its affiliates.

Both WUNB-TV, Channel 2, Columbia, and WUNC-TV, Channel 4, Chapel Hill, operate with a visual effected radiated power of 100,000 watts, the highest power allowable for these channels.

Transmitters are being developed in Concord, Linville, and Asheville. These new facilities will operate on ultra-high frequency (UHF) channels which are expected to begin service early in 1966.

University of North Carolina Educational Television stations broadcast educational and public service programs to the people of North Carolina. Their purpose, according to the charter of the original WUNC-TV, is "to bring the individual viewer toward informed adjustment to his society, to raise his standards of taste, to increase his range of valuable information, or to stimulate him to undertake worthwhile activities."

Programs are directed to the in-school, adult, children's and general audiences. Membership in the National Association of Educational Broadcasters and affiliation with National Educational Television enable the University's stations to broadcast a broad selection of programs from the University's studios, the mobile unit, National Educational Television, and other educational television stations throughout the nation.

INSTITUTE OF STATISTICS

GEORGE EDWARD NICHOLSON, JR., *Head of the Chapel Hill Section*
DAVID D. MASON, *Head of the Raleigh Section*

The Institute of Statistics is a research agency that was established in 1945 to stimulate and strengthen the University's program in statistics. The Institute works with departments and agencies which exist under the regular administrations. Through sections organized on respective campuses, it plays a major role in assisting local administrations to maintain and strengthen departments, and to administer grants and contracts which have to do with statistical theory and practice. It brings distinguished scholars to the University to do research, teaching, and occasional lecturing. It is instrumental in organizing summer sessions and conferences and encourages various statistical groups to work together for mutual benefit.

In Raleigh, the Institute cooperates with the Department of Experimental Statistics and engages in much close consulting work with the Agricultural Experimental Station, the Engineering School, and the School of Physical Sciences and Applied Mathematics. Besides training graduate students whose chief interest is in applications of statistics, the Department of Experimental Statistics engages in cooperative research activities with government agencies and with industry in the state. In addition to conducting a graduate training program and granting M.S., M.E.S., and Ph.D. degrees in Experimental Statistics, the Department conducts the undergraduate teaching of Statistics, and offers a B.S. in Experimental Statistics.

In Chapel Hill, the Institute works with many groups. The Department of Statistics is principally concerned with research in theoretical statistics and in the training of students for M.S. and Ph.D. degrees; however a strong B.S. degree program is offered for well qualified undergraduates. The Department has active research projects in the area of probability and statistics, which provide opportunities for graduate students to conduct research leading to the Ph.D. degree and to receive stipends during their graduate study.

The Department of Biostatistics in the School of Public Health, the Social Science Statistics Laboratory, the Psychometric Laboratory, and the Computation Center are other organizations in Chapel Hill which, together with the Institute of Statistics, engage in cooperative research activities. Also, collaboration with the new Research Triangle Institute nearby is a major aspect of current activities. Through the Institute of Statistics, contact between members of the various groups is maintained and encouraged. Through uniting the strengths of several departments and campuses, the Institute represents a resource in statistics of great distinction.

Part Six

DIRECTORY AND REFERENCE

HISTORICAL SKETCH

A Record for the Year 1966-1967

1776-1804. Sanctioned in the North Carolina Constitution of 1776 and chartered by the General Assembly of 1789, the University began physical existence on October 12, 1793. On that day the state's Grand Master of Masons, William Richardson Davie, conducted the ceremonial laying of the cornerstone of Old East. Formal opening exercises were held January 15, 1795; the first student arrived February 12. After two weeks others came to make a first-term enrollment of 41, instructed by a faculty of two. Until 1804 the University had no president, but a succession of "presiding professors" managed to keep open the impoverished little school of classical studies on a wooded hill named for a chapel called New Hope.

1804-1870. The first four presidents of the University were Joseph Caldwell (1804-12; 1817-35), Robert H. Chapman (1812-16), David L. Swain (1835-68), and Solomon S. Pool (1868-70). The University survived sectarian and political attacks, public apathy, and continued poverty. It began its slow emergence from obscurity as it strengthened its faculty and liberalized its curriculum. The natural sciences gained equal status with classical studies (1815). Dension Olmstead in 1824 and Elisha Mitchell in 1827 prepared and published reports of a state geological survey. After the constitutional reforms of 1835 and the success attained by many alumni in state and federal government, a more favorable political climate for the University was accompanied by greater emphasis on education for public service. A private law school opened by Judge William H. Battle offered instruction to a class of regular academic students (1845). The 1858 enrollment of approximately 460 was the peak for the period between 1795 and 1893.

Four additional permanent buildings had been completed: South in 1814, Old West in 1823, Gerrard in 1837, Smith (now Playmakers Theatre) in 1851. Construction of New East and New West began in 1858 and was completed in the fateful summer of 1861.

With most of its faculty and students away in Confederate military service, the University remained open through the Civil War (1861-65) and for five years of the general economic ruin and partisan bitterness which forced its closing during the 1870-71 session.

1875-1900. The fifth, sixth, and seventh presidents of the University were Kemp P. Battle (1876-91), George T. Winston (1891-96), and Edwin A. Alderman (1896-1900). Charles Phillips, chairman of the faculty, was presiding officer of the reopened University in 1875-76.

The Constitution of 1868 had asserted the University's "inseparable connection with the Free Public School system of the State." As amended in 1873 it established the present legislative controls over the election of the Trustees and authorized the General Assembly to "make such provisions, laws and regulations, from time to time, as may be necessary and expedient for the maintenance and management of the University." A new Board of Trustees responded to the appeals of alumni and friends, and Mrs. Cornelia Phillips Spencer personally rang the long-stilled campus bell to announce the reopening in 1875. In regaining faculty strength and student enrollment before the end of the century, the University displayed stamina worthy of its heritage. Its vision was revealed in refusal to look back to lost eminence as a goal. First to open a summer "normal school" for teachers (1877), the University introduced regular courses in education as early as 1885. Other guideposts to the future included the beginning of medical and pharmaceutical studies (1879), the first regular legislative appropriation for University maintenance (1881), announcement of graduate studies leading to degrees (1876; A.M. and Ph.D. degrees awarded 1883), organization of learned societies for research and publication (Elisha Mitchell Scientific Society, 1883; Philological Club, 1893), reorganization of scientific laboratories and discoveries of major significance in industrial chemistry (1880-1900), administrative integration of the semi-independent School of Law 1894, admission of first women students (1897). Until 1900 no additional permanent building had been completed except the architecturally unique first Memorial Hall (1885), which was later condemned, razed, and completely rebuilt (1930-31). Carr was completed in 1900; Alumni and Smith were to be finished in 1901. Enrollment was 512 (1899-1900).

1900-1930. The eighth, ninth, and tenth presidents of the University were Francis P. Venable (1900-14), Edward K. Graham (1914-18), and Harry W. Chase (1919-30). Graham also served as acting president (1913-19), and after his death in the influenza epidemic of 1918 Dean Marvin H. Stacy, as chairman of the faculty, was authorized to perform presidential duties. Three months later, he too was similarly stricken.

The period before World War I was marked by significant gains in academic standards and productive scholarship of the faculty, reorganization and orderly expansion of library services, the gradual specialization of fiscal and administrative functions, and increased emphasis on the applied and social sciences. Physical education, athletics,

and student government became increasingly important in campus life. As enrollment increased toward the 1,000 mark, reached before America's entrance into the war, state appropriations for urgently needed buildings were supplemented by gifts from alumni and friends and by special Carnegie and Peabody grants. Establishment of the Kenan Professorships Fund (1917) promised substantial and permanent incentive for excellence in teaching, research, and other service to the University. Extension services of the Library (1903), the School of Education (1913), and the Bureau of Extension (1913), made the University a significant participant in the secondary-school phase of the state's progress toward universal public education.

About 1920 the third phase of this educational awakening demanded a crucial test of the state's obligation and ability to provide essential accommodations for indefinitely increasing numbers of qualified high school graduates seeking further educational opportunity in state-supported institutions. The test was decisively passed when the General Assembly in 1921 appropriated $1,490,000 for beginning the University's comprehensive building program. Subsequent appropriations brought the ten-year total to $5,424,000. According to a professionally prepared long-range plan, the campus quickly expanded southward and eastward in balanced groups of new structures, neither crowding nor isolating historic old buildings. These were completely renovated. Selection of South Building as the campus "capitol" created a conspicuous symbol of the bond between heritage and modernization.

Though halted by depression and suspended by World War II, this essentially continuous expansion program still goes on, always impressive in the magnitude of completed stages, yet never at any stage abreast of the growing need for buildings not yet begun.

The 1920-30 period of enforced venture into bigness was also accompanied by further qualitative advances. The Graduate School, which had been established in 1903, was reorganized in 1920; the University was elected to membership in the Association of American Universities, and The University of North Carolina Press incorporated in 1922. The Institute for Research in Social Science was organized in 1924. In 1929 the University Library, professionally staffed, was moved into the first unit of the present Louis Round Wilson building. These expanded facilities for research and publication attracted an increasing number of graduate students and able young faculty members from all parts of the United States. Scholarly books and articles by specialists in various fields won national and international recognition for the University departments represented by the authors.

By 1930 the University had variously supplemented opportunities for professional education offered in the schools of Law, Medicine, Pharmacy, and Education. Recently added business subjects closely

related to the academic and research programs of the Department of Economics were included in the School of Commerce (now Business Administration) established in 1919. A school of engineering, later to be merged with the consolidated University's program at North Carolina State College, was organized in 1922. The School of Library Science had been assured by a Carnegie Corporation grant (1929) and was to be opened in 1931. The School of Public Welfare, established in conjunction with the Department of Sociology in 1920, was to be renamed and reorganized several times before becoming the School of Social Work in 1950. Courses in journalism, first offered in the Department of English in 1909-10, had become professionally specialized as a separate department, which was to become the School of Journalism in 1950. Specialized workshop courses and productions in dramatic art, offered in the Department of English since 1918, had won national recognition for the Carolina Playmakers, who dedicated their Theatre in 1925. The Department of Music, organized in 1919, also developed rapidly and the present Hill Hall of Music was dedicated in 1930.

1930—. The eleventh president of the University, Frank P. Graham (1930-1949), was elected first president of the consolidated University of North Carolina in 1932. The second and third presidents of the consolidated University of North Carolina have been Gordon Gray (1950-55) and William C. Friday (1956—). Acting presidents have been William D. Carmichael, Jr. (1947-48; 1949-50), and Harris Purks (1955-56). Prior to his election, President Friday also served as acting president (March-October, 1956). Administrative heads of the University at Chapel Hill have been Robert B. House (Dean of Administration, 1934-45; Chancellor, 1945-57), William B. Aycock (Chancellor, 1957-64), Paul Frederick Sharp (Chancellor, 1964-66) and Joseph Carlyle Sitterson (Chancellor, 1966—).

The continued vigorous growth of the University has been marked by crowded events not yet subjected to historical evaluation. In the decade before World War II, the General College was organized (1935) and the School of Public Health established (1936). Physical education and athletic programs were greatly expanded after the opening of Woollen Gymnasium (1938). Modern, expanded facilities for medical study and research and for infirmary services to students were provided in the first units of what was to become the Division of Health Affairs.

The Naval ROTC unit was established in 1940. Throughout World War II the University made notable contributions to national military training programs. It provided a base and many instructors for the U. S. Navy Pre-Flight School. Its accelerated Navy V-12 program permitted students to pursue regular academic courses while

training for active duty. Army and Air Corps programs of various kinds were also carried on. The Air Force ROTC unit was established in 1947.

War-time exertions and sacrifices did not stop studies and plans for peace. Continuously from 1942 until May 10, 1950, a committee of General Faculty worked out and submitted at intervals for faculty approval the instrument known as "Faculty Legislation on University Government." The Faculty Council was established as the legislative body representing both the General Faculty and all administrative divisions of the University. Undergraduate, graduate, and professional programs were kept active, and plans were made for their post-war expansion. The Institute of Government became a part of the University in 1942; the Communication Center was established in 1945. Departments of City and Regional Planning (1946), Statistics (1946), Radio (1947), and Religion (1947), were established immediately after the war.

Legislative authorization and appropriations in 1947 began the phenomenal growth of the Division of Health Affairs, the most striking expansion of the University in recent years. The new Division was organized in 1949 and has already made incalculable contributions to the comprehensive health program of the state and region. Schools of Dentistry and Nursing have been added to previously organized schools of Medicine, Pharmacy, and Public Health. The completion and expansion of the North Carolina Memorial Hospital by offering abundant clinical facilities has contributed to the rapid development of both the old and new schools.

Among other recent events are the vastly enlarged scholarship and development programs participated in by state and national foundations. Alumni Annual Giving, private donors, government and industry; establishment on the campus of the WUNC-TV station for educational television; re-establishment (1948) of the School of Education (discontinued 1933) and its subsequent rapid expansion; similar development of the School of Business Administration (name changed from School of Commerce, 1950); the completion of Beard Hall, the new School of Pharmacy building (1959); the moving of the School of Journalism to the remodeled Howell Hall (1960); the completion of William Morton Dey Hall which houses the Department of Romance Languages, and the School of Public Health building (1962); the William C. Coker Hall which houses the Department of Botany (1963); such notable cultural additions as the Morehead Building and the William Hayes Ackland Memorial Art Center; installation of a UNIVAC 1105 Data Processing System; and the expanding adult-education services of the University Extension Division and the Institute of Government.

Enrollment in the fall of 1941 was 4,108, the all-time high before World War II. In 1948-49 it reached 7,603, then declined as veterans completed their programs. Rising again without abnormal pressures, it was 12,419 in 1965-1966 and 13,352 in 1966-1967.

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BENEFACTIONS

THE DEVELOPMENT PROGRAM

The Development Program was organized in June 1952. It is made up of a volunteer group of distinguished business and professional leaders of the state who are cooperating with the administration, trustees, faculty, alumni, and friends in planning and carrying out a continuous development program to serve the University and the state. The following programs are coordinated through the Office of Development. Charles M. Shaffer, Chapel Hill, N. C., is Director.

ALUMNI ANNUAL GIVING. Annual giving was organized in September 1952, to give every alumnus the opportunity of annually assisting the University by contributing to an unrestricted fund.

THE BEQUEST PROGRAM. Initiated in September 1955, the Bequest Program is designed to inform alumni and friends of the opportunities existing at the University for purposeful and enduring memorials. Development Office and the University officials are available to assist interested donors in creating a thoughtful and mutually beneficial bequest.

THE BROADCASTING FOUNDATION OF NORTH CAROLINA, INC. The Broadcasting Foundation was organized in 1955 ". . . to sponsor, promote, encourage, support, and assist, financially and otherwise, the advancement of education in the fields of radio and television at or through the Department of Radio, Television, and Motion Pictures of The University of North Carolina at Chapel Hill."

THE BUSINESS FOUNDATION OF NORTH CAROLINA, INC. The Business Foundation was established in July 1946. Its articles of incorporation provided: "The objects and purposes for which the corporation is formed are to aid and promote, by financial assistance and otherwise, all types of education, service and research for business and industry at or through the School of Business Administration and other departments of the University at Chapel Hill. . . ."

THE DENTAL FOUNDATION OF NORTH CAROLINA, INC. The Dental Foundation, incorporated under the laws of North Carolina in 1950, is dedicated to the achievement of optimum dental and general health for all citizens of North Carolina. It is designed specifically to aid educational and research programs, including student loans, scholarships, and the library, of the School of Dentistry of The University of North Carolina at Chapel Hill.

THE EDUCATIONAL FOUNDATION, INC. The Educational Foundation was organized in 1939 "to provide grants-in-aid to worthy and needy students participating in athletics." All grants-in-aid are awarded through the University Scholarship Committee.

THE FRIENDS OF THE LIBRARY. The Friends of the Library was organized in 1932 "to promote the interests of the Library of The University of North Carolina at Chapel Hill, including the libraries of its schools and departments, by every means at the command of the organization or of its individual members."

THE SCHOOL OF JOURNALISM FOUNDATION OF NORTH CAROLINA, INC. The Journalism Foundation was chartered in 1949 "to sponsor, promote, . . . the advancement of education in the field of journalism at or through the School of Journalism of The University of North Carolina at Chapel Hill . . ."

LAW ALUMNI ASSOCIATION OF THE UNIVERSITY OF NORTH CAROLINA, INC., AND THE UNIVERSITY OF NORTH CAROLINA LAW FOUNDATION. Incorporated in 1952, its broad purposes are: "To sustain among the alumni high, ethical principles in the practice of law and otherwise to benefit the profession; to encourage the continuing development of legal education; to provide for scholarships and other aid to students; to provide prizes for excellence in student endeavors and recognition for alumni for outstanding achievements."

THE MEDICAL FOUNDATION OF NORTH CAROLINA, INC. The Medical Foundation, incorporated in 1949, has as its over-all objective that of aiding in medical education, medical research, and medical services to the people of North Carolina through the facilities of The University of North Carolina at Chapel Hill, and specifically through its School of Medicine, the North Carolina Memorial Hospital, and the School of Nursing.

THE NORTH CAROLINA PHARMACEUTICAL RESEARCH FOUNDATION, INC. The North Carolina Pharmaceutical Research Foundation, Inc., was organized in 1946 "to foster and promote . . . education and research in the School of Pharmacy of the University at Chapel Hill and in the State. . . ."

THE COMMITTEE FOR DISTINGUISHED PROFESSORS. This committee is dedicated to the task of providing 25 endowed Chairs in order to keep pace with the growing faculty and maintain the position and standards of the First State University to open its doors.

DISTINGUISHED PROFESSORSHIPS

THE KENAN PROFESSORSHIP FUND was established in 1917 by the bequest of Mrs. Lily Kenan Flagler Bingham in memory of her father, William R. Kenan, Class of 1864, her uncles, Thomas K. Kenan, Class of 1857, and James Graham Kenan, Class of 1861. Almost 100 professors have borne this distinguished and coveted title "in the interest of education of the youth of North Carolina."

THE BURTON CRAIGE PROFESSORSHIP was provided for by a gift of the late Burton Craige of Winston-Salem, Class of 1897, in a Trust Agreement dated December 14, 1938, "to encourage and inspire at Chapel Hill a love of political or legal wisdom with some knowledge of the philosophy and history of our own constitutional governments, state and Federal, and their interpretations and administration."

THE JAMES A. GRAY PROFESSORSHIP IN THE BIBLE. A fund was established in 1946 by the late James Alexander Gray, Class of 1908, for "maintenance of a Chair of Instruction in the Bible and for use in instruction in related fields of religion."

THE JULIAN PRICE PROFESSORSHIP OF INSURANCE was established in May 1947, by Mr. Ralph C. Price and Mrs. Kathleen Price Bryan as a memorial to their father, to provide funds for "instruction in any or all phases of life insurance." Provision was made, moreover, that any excess income "shall be applied to expenses of research in said School . . . or toward scholarships."

THE WACHOVIA PROFESSORSHIP OF BANKING was provided for in October 1951, by a gift from the Wachovia Bank and Trust Company to the Business Foundation. Income from the endowment is made available annually to the University for support of instruction and research in the field of banking.

THE BURLINGTON INDUSTRIES CHAIR IN MARKETING was established in November 1951, provided for by the annual income from a gift made by the Burlington Industries, Inc., to the Business Foundation.

THE R. J. REYNOLDS TOBACCO COMPANY PROFESSORSHIP, also established in November 1951, was provided for by the annual income

from a gift made by the R. J. Reynolds Tobacco Company to the Business Foundation.

THE GEORGE L. PADDISON PROFESSORSHIP FUND was established by the will of the late George L. Paddison, Class of 1905, who died October 17, 1954, "to provide a superior degree of competence and excellence in the teaching of Latin and Greek."

THE DREXEL RESEARCH PROFESSORSHIP, provided for by income from a gift of endowment funds by the Drexel Furniture Company to the Business Foundation completed in March 1959, is awarded annually to a faculty member involved in major research responsibilities.

ALUMNI DISTINGUISHED PROFESSORSHIPS are made possible by contributions of alumni to Alumni Annual Giving. These professorships will enable the University to strengthen the faculty and the quality of teaching. Currently there are twelve such professorships.

THE MAHLON K. JORDAN VISITING PROFESSORSHIP FUND was established in 1961 by Mahlon K. Jordan, Class of 1935, of Berkeley, California. A committee appointed by the Chancellor selects a "visiting teacher or lecturer" for each academic year.

TAYLOR GRANDY LECTURESHIP ON PHILOSOPHY OF LIVING—teaching both "How to Live" and "How to Make a Living," was provided by a bequest of Taylor Grandy, Class of 1886.

JAMES GORDON HANES CHAIR FOR THE HUMANITIES was established by the John W. and Anna H. Hanes Foundation on September 27, 1961, to provide a distinguished professorship ". . . in the broad field of the Humanities . . ."

AGNEW H. BAHNSON, JR., PROFESSORSHIP, established in 1961 by the Institute of Field Physics, this professorship was renamed for Agnew Hunter Bahnson, Jr., (1915-1964) whose boundless energy and undaunted enthusiasm led to the establishment of the Institute.

THE SARAH GRAHAM KENAN PROFESSORSHIP OF MEDICINE was established in 1962 by the Sarah Graham Kenan Foundation, Inc., and Frank H. Kenan of Durham, North Carolina, "to provide . . . for the payment of a salary supplement to distinguished members of the Medical faculty."

THE SARAH GRAHAM KENAN PROFESSORSHIP OF LAW was established in 1962 by the Sarah Graham Kenan Foundation, Inc., and Frank H. Kenan of Durham, North Carolina ". . . to provide for the payment of a salary supplement to distinguished members of the Law faculty."

THE WILLARD J. GRAHAM CHAIR OF BUSINESS ADMINISTRATION was established in April, 1966 by the graduates of The Executive Program

to honor Professor Graham, Director of The Program since its inception in 1953 until his death in November, 1966. Endowment income is used to support a distinguished professorship in Business Administration.

THE WILLIAM R. KENAN, JR., PROFESSORSHIPS—A grant from the William R. Kenan, Jr., Charitable Trust to provide 25 professorships "... that would contemplate the professors working closely with their students, hopefully anticipating that this relationship will stimulate the educational process. . . ."

THE THOMAS JEFFERSON AWARD was established in 1961 by the Robert Earll McConnell Foundation and is presented to "that member of the academic community who through personal influence and performance of duty in teaching, writing and scholarship has best exemplified the ideals and objectives of Thomas Jefferson."

THE LOLA SPENCER AND SIMPSON BOBO TANNER MEMORIAL FUND was established in 1952, the income to be used for annual awards to ". . . selected members of the faculty in recognition of excellence in inspirational teaching of undergraduate students, preferably with respect to their influence on first and second year students."

FELLOWSHIPS AND SCHOLARSHIPS

The following chronological list does not include fellowships and scholarships restricted to particular fields of study. These are listed separately, beginning on page 410. Certain aids to students provided through regular University appropriations or temporary grants from other sources are also excluded. Graduate and professional students should consult the special catalogues of the schools they expect to enter.

THE MOORE SCHOLARSHIPS. (Established in 1881.) Bartholomew Figures Moore, of Raleigh, North Carolina, bequeathed $10,000, the interest of which shall be devoted to paying the tuition of students. In 1940, James Moore, the son of the donor, raised the sum to $15,000.

THE FRANCIS J. SMITH SCHOLARSHIPS. (Established in 1885.) Miss Mary Ruffin Smith bequeathed to the University in memory of her brother Dr. Francis Jones Smith, 1,460 acres of land, known as Jones' Grove, in Chatham County. The will provides that rents of the land or, if sold, the interest on the purchase money shall be used to pay the tuition of such needy students as the faculty shall appoint.

THE MARY ANN SMITH SCHOLARSHIPS. (Established in 1891.) Miss Mary Ann Smith bequeathed $37,000 for the foundation of scholarships, the number of scholarships to be determined by the amount of the income.

THE CAMERON SCHOLARSHIPS. (Established in 1892.) The heirs of Paul Carrington Cameron founded in his memory ten tuition scholarships.

THE SPEIGHT SCHOLARSHIPS. (Established in 1892.) The late Mrs. Mary Shepherd Speight bequeathed $10,000 to the University. The income shall be used to pay the tuition of needy students; if tuition is ever made free, the income shall be used toward paying the salaries of professors.

THE MARTHA AND VARINA MASON SCHOLARSHIPS. (Established in 1894.) Mrs. Mary Elizabeth Mason bequeathed to the University a tract of about 800 acres of land (now known as Mason Farm which had been purchased by her grandfather from the Earl of Granville, and her husband, Rev. James Pleasant Mason gave $1,000. The endowment is named after their two daughters, Martha and Varina Mason, and the income is used for the education of needy students.

THE WEIL SCHOLARSHIPS. (Established in 1898.) A fund established by Mr. Henry Weil of Goldsboro, North Carolina, to provide scholarships.

THE KENNETH MURCHISON SCHOLARSHIPS. (Established in 1904.) These scholarships were founded by Mrs. Shirley Carter, of Baltimore, Maryland, and the late Mrs. James Sprunt, of Wilmington, North Carolina, in memory of their father.

THE DONALD FAIRFAX RAY SCHOLARSHIP. (Established in 1919.) Mrs. N. W. Ray of Fayetteville, North Carolina, established this scholarship in memory of her son, Donald Fairfax Ray, a graduate of the University, who died while in the service of his country.

THE HOLT SCHOLARSHIPS. (Established in 1920.) Scholarships are maintained by the income from the Holt Loan Fund, established by Mr. Lawrence S. Holt, Jr.

THE R. H. LEWIS SCHOLARSHIPS. Four scholarships, endowed by the University Gymnasium Association and called the R. H. Lewis Scholarships, are assigned by the President, and are to be used for tuition in the academic department.

THE GEORGE NEWBY TOMS SCHOLARSHIPS. (Established in 1926.) Mr. C. W. Toms, in memory of his son, George Newby Toms, granted the income from a fund of $10,000 as scholarships to worthy students, preference being given to students from Durham and Perquimans counties in North Carolina.

THE WILLIAM BLOUNT RODMAN SCHOLARSHIPS. Two scholarship loans assigned to students at the University from the memorial trust fund created by Colonel W. B. Rodman in memory of his father, William Blount Rodman. They are assigned by the State Superintendent of Public Instruction, Trustee of the fund.

THE BERNARD-GRAIL SCHOLARSHIPS. (Established in 1938.) Scholarships provided by the Order of the Grail from profits from its various projects and from the interest from the Order of the Grail Loan Fund. These scholarships were established in memory of Professor William Stanley Bernard who, as faculty adviser, was a source of inspiration and guidance to the Order of the Grail.

THE HERBERT WORTH JACKSON MEMORIAL SCHOLARSHIPS. (Established in 1938.) Endowed by Mrs. Annie H. Jackson of Richmond, Virginia, as a memorial to her husband, Herbert Worth Jackson, Class of 1886, and supplemented in 1940 by additional gifts of Herbert Worth Jackson, Jr., and Samuel S. Jackson, and in 1963 by a legacy in the will of Miss Evelyn H. Jackson, the fund maintains four $4,800 scholarships for entering freshmen, native-born male residents of North Carolina, nominated by their high schools or preparatory schools. One candidate only may be certified by each school to the University Scholarship Committee, though others not so certified may apply. The Committee shall select those who shall come to Chapel Hill for interviews with the Jackson Scholarship Committee. The basis of selection shall be high scholastic rank, character, qualities of leadership, achievement, physical health and vigor, and promise of future distinction. A new four-year award is made each year.

THE MARK R. BRASWELL SCHOLARSHIPS. (Established in 1938.) In memory of Dr. Mark R. Braswell, Class of 1888, of Rocky Mount, North Carolina, an initial fund of $20,000 was created (to which subsequent additions have been made) for the endowment of scholarships to be awarded annually to entering freshmen by the Braswell Scholarship Committee. Scholarships are awarded annually for a tenure of one year each. The Committee, at its discretion, may extend the tenure, thus enabling the award to be made to a previous holder. The qualifications for award are character, all-around development, high scholastic attainment, and financial need.

THE WILLIAM ISAAC WITKIN SCHOLARSHIP. (Established in 1943.) The income from a fund of $10,000 to be used as scholarships to be awarded each year by the University Scholarship Committee in accordance with its usual regulations. This fund was established by Mr. Isaac Witkin, of New York City in gratitude for and in commemoration of the safe return from war service of his son, William Isaac Witkin, Class of 1943. Subsequent periodical contributions have been made to the fund by the family.

THE COUNCIL-MASSEY SCHOLARSHIPS. (Established in 1941.) This scholarship was founded by C. Knox Massey of Durham, North Carolina, in honor of his father, C. W. Massey, University alumnus, civic and educational leader of Durham, and C. T. Council, University trustee, manufacturer, civic and educational leader of Durham.

Scholarships are awarded annually in amounts which the interest from a principal fund of $50,000 makes possible.

THE CAROLINA SCHOLARSHIP. (Established in 1942.) Established by a gift of $2,500 from the 1942-43 students. To any undergraduate, number varying with funds available. Value, tuition.

THE CHAIR OF HISTORY SCHOLARSHIPS. (Established in 1942.) An endowment established by the late Julian S. Carr. The income is to be awarded in scholarships to any undergraduate for need and merit. The number varies and the scholarships are awarded in accordance with the policy of the University Scholarship Committee.

THE GEORGE W. GRAHAM MEMORIAL SCHOLARSHIP. (Established in 1942.) Established by Mrs. George W. Graham, Sr., of Charlotte, North Carolina, as a memorial to her husband, Dr. George W. Graham, Class of 1868. The income only is to be used as scholarship awards. The recipient is to be designated by the University Scholarship Committee.

THE COLUMBUS HOWARD MORRISON SCHOLARSHIP. (Established in 1943.) Established by Fred W. Morrison of Washington, D. C., in memory of his father, Columbus Howard Morrison. Income from the investment of the scholarship endowment is to provide scholarships for promising young men and women who need financial assistance with preference given to those students from Cabarrus and Rowan counties.

THE ROBERT G. S. DAVIS SCHOLARSHIP. (Established in 1943.) Established by Mrs. Davis in memory of her late husband. Additions to the fund have been made subsequently by her sons. The fund is to provide scholarships for students from Vance County. Criteria to be observed in selection of its recipients are financial need, character, and academic potential.

THE CHI PSI SCHOLARSHIP. (Established in 1946 by the Trustees of the Chi Psi Fraternity Educational Trust.) One scholarship, not to exceed $200, to be awarded annually by the University Scholarship Committee to a regularly enrolled junior or senior student member of the Chi Psi Fraternity who has exhibited promise in scholarship and qualities of leadership.

THE HARRY J. WINKLER MEMORIAL SCHOLARSHIP. (Established in 1946.) Established by a gift from Dr. and Mrs. Harry Winkler to be awarded by the University Scholarship Committee and to be given to a student at Central High School (now Garinger High School) who desires to continue his education at The University of North Carolina at Chapel Hill. The student should be of good character, should need financial assistance, and should have a good scholastic record. Recipient is nominated by the high school.

THE HENRY BRANCH II, SCHOLARSHIP. (Established in 1946.) Established through a gift of $2,000 by Mrs. Branch in memory of her hus-

band, an alumnus of the University, who died as the result of service in World War II. Winner is to be a participant in track at the University. Awards are made on the basis of character, scholarship, and need.

THE ANDREW BERSHAK INTERFRATERNITY SCHOLARSHIP. (Established in 1948.) Established from contributions from University of North Carolina students who are members of various social fraternities as a memorial to Andrew Bershak, Class of 1938. The fund maintains a scholarship valued at $2,400 covering a four-year tenure ($600 a year) subject to maintenance of high standing by the recipient as a student at the University. The basis of selection shall be high scholastic rank, character, qualities of leadership, and financial need.

THE JOSEPHUS DANIELS SCHOLARSHIP. (Established in 1949.) In accordance with the will of the late Josephus Daniels, funds have been provided to establish two scholarships valued at $600 a year for four years to be awarded to North Carolina students. These awards are made on the basis of scholarship, character and citizenship and financial need.

THE CHARLIE JUSTICE SCHOLARSHIP. (Established in 1950.) One scholarship maintained by interest from a fund of $10,000 raised by the Tar Heel Club of Durham, North Carolina, from friends and admirers of Charlie Justice, outstanding University athlete, Class of 1950. The scholarship is to be awarded each year by the University Scholarship Committee to a graduate of a North Carolina high school who has demonstrated outstanding ability as a football player and who can otherwise qualify for a University scholarship.

THE JOHN MOTLEY MOREHEAD AWARDS AND FELLOWSHIPS. (Established in 1951 by the John Motley Morehead Foundation.) Awards and Fellowships made by the Trustees of the Foundation for merit without consideration of need. Awards are for undergraduate study leading to a four-year academic degree tendered only to graduates nominated by the school committee of accredited high and preparatory schools in North Carolina and out-of-state preparatory schools selected by the Trustees of the Foundation. Awards are valued at $1750 per annum plus the tuition differential for an out-of-state student. Nominations for Awards are made by the selection committee in the high or preparatory school.

FELLOWSHIPS are for study leading to degrees in Law, Medicine, or the Doctor of Philosophy in the Graduate School. Valued at $2500 per annum for Law and Medicine, plus tuition and fees, and $4000 per annum plus tuition and fees in the Graduate School. Nominees are selected by committees in the Law, Medical, and Graduate Schools.

AWARDS AND FELLOWSHIPS subject to renewal upon the maintenance by a recipient of standards of work and conduct which in the opinion of the Trustees of the Foundation justify the grant.

THE KATE PEARSALL SCHOLARSHIP. (Established in 1953.) Established by the will of Kate Pearsall, a trust of $6,949.83 was established for a scholarship fund, the income to be given in the form of scholarships to men and women of the University on the basis of need and merit. The scholarships should be awarded in accordance with the University's regular policies.

THE CARRIE HEATH SCHWENNING SCHOLARSHIP. (Established in 1954.) Provided by the Chapel Hill Branch of the American Association of University Women, this scholarship of $150 is awarded annually to a woman graduate student.

THE AUBREY LEE BROOKS SCHOLARSHIPS. (Established in 1955.) An endowment fund of approximately $1,000,000 established by Mr. Aubrey Lee Brooks, of Greensboro, North Carolina, Class of 1895, to promote the education of deserving youth by providing scholarships at The University of North Carolina at Chapel Hill, North Carolina State University at Raleigh, and The University of North Carolina at Greensboro, to high school graduates selected by the Trustees of the Aubrey Lee Brooks Foundation. Applicants for these scholarships shall be residents of Surry, Stokes, Rockingham, Caswell, Person, Granville, Alamance, Orange, Durham, Guilford, and Forsyth counties. Applications may be secured from high school principals in the counties named. The scholarships are currently valued at $700 for each year.

THE BURLINGTON INDUSTRIES SCHOLARSHIPS. (Established in 1955.) These annual scholarships provided by the Burlington Foundation are awarded to an outstanding junior for his or her final two years of undergraduate study. Students selected for the award receive $500 annually. In addition, the Burlington Foundation gives an equal amount to the University for other purposes. Selection criteria are: leadership, scholarship, and financial need.

THE GENERAL MOTORS COLLEGE-PLAN SCHOLARSHIPS. (Established in 1955.) The General Motors Corporation, through its grants for unrestricted funds to higher education and its scholarship awards, expresses its vital interest in higher education and its desire to help students of superior ability but limited financial resources realize their potentialities to the fullest. General Motors College-Plan Scholarships are four-year awards. Stipends vary from $200 to $2,000, depending on the need of the individual. The University has full discretion in awarding these scholarships. There are no limitations as to course of study or future employment. One award is made each year to an entering freshman who is a citizen of the United States, has an excellent

high school academic record, a good record in extracurricular activities, a well developed sense of responsibility, and demonstrated qualities of leadership.

THE THOMAS M. AND LORENA COPPLE SCHOLARSHIPS. (Established in 1955.) Established by a bequest from Thomas M. and Lorena K. Copple in memory of T. Wilbur Copple, their son, and Samuel Pearson Copple, brother of Thomas M. Copple The income from a fund of $20,986.87 to be used as scholarships to be awarded each year by the University Scholarship Committee in accordance with its usual regulations in aiding worthy male or female students of high moral character, who have an aptitude to apply themselves academically.

THE ALUMNI ANNUAL GIVING FELLOWSHIPS FOR FIRST YEAR GRADUATE STUDENTS. (Established in 1957.) As one of its most significant contributions to the University in 1957, the Alumni Annual Giving Program created a number of $2,100 fellowships available to qualified students entering the School of Graduate Studies.

THE FRANCIS E. HILL (PERMANENT) SCHOLARSHIP. (Established in 1957.) To North Carolina residents, usually entering freshmen, by competitive examinations in English, history and mathematics, and demonstrated financial need. To be continued during the four year academic course, if satisfactory conduct and academic progress is attained by the student. Value, tuition.

THE STONEWALL JACKSON MEMORIAL SCHOLARSHIP. (Established in 1957.) Established by the General Assembly of the State of North Carolina to memorialize the Confederate General Stonewall Jackson, a fund of $20,000 was appropriated, to which subsequent gifts have been added. A scholarship of $1,000 per year for four years is awarded every four years to an entering freshman who is a legal resident of North Carolina and is a person of good character and high academic promise with need of financial assistance.

THE WINN-DIXIE SCHOLARSHIPS (Established in 1957.) An annual gift of $600 from the Winn-Dixie Stores Foundation provides scholarships for juniors and seniors who require financial assistance. Scholarship, character, and potential promise of the applicant are also required. Recipients must have resided in one of the southern states for at least ten years.

THE ALSTON-PLEASANTS SCHOLARSHIPS. (Established in 1958.) Mrs. Missouri Alston Pleasants of Louisburg, North Carolina, established a trust fund of $100,000 to the University at Chapel Hill as a memorial in honor of Willis (Congress) Alston. The trust agreement directs that the annual earned income from the trust fund shall be used by The University of North Carolina at Chapel Hill to provide

Alston-Pleasants Scholarships for either boys or girls who are residents of Franklin, Halifax, and Warren counties of North Carolina, and who are eligible by the standards of The University of North Carolina at Chapel Hill for admission to the University at Chapel Hill. "It is the wish and expectation of the Grantor that the Scholarship Committee of the University shall select as recipients of funds from this trust white youths, without regard to social or economic standing, who not only have a satisfactory scholastic record but also are possessed of the best traits of upright morals, sincerity, industry, thrift, truthfulness, kindness and Christian humility." The present annual value of the scholarship is $1,100. Tenure for the scholarship is four years, subject to good scholastic performance and commendable conduct.

THE BLANCHARD SCHOLARSHIPS. (Established in 1959.) This endowment was provided for in the last will and testament of Miss Elizabeth Amis Cameron Blanchard, dated November 16, 1943, to be known as the John Osgood Blanchard and Elizabeth Amis Cameron Blanchard Scholarships. Income from this endowment is to be used for scholarships for worthy divinity students of the Episcopal faith, or for scholarships, for any worthy sons or daughters of Episcopal ministers or worthy Episcopal descendants of Colonial ancestors, as the Trustees of the University in their discretion may determine.

THE WILLIAM ASBURY WHITAKER SCHOLARSHIPS. (Established in 1960.) The William A. Whitaker Foundation was established April 28, 1960, at The University of North Carolina at Chapel Hill, by the bequest of the late William Asbury Whitaker of New York City, formerly of Winston-Salem, of approximately $1,750,000. One-third of the legacy supports scholarships and fellowships, the recipients to be known as "Whitaker Scholars" or "Whitaker Fellows."

Worthy graduates of North Carolina high schools and preparatory schools take precedence in awards, but candidates from other states may be eligible. Mr. Whitaker directed, "It is my intention that the said scholarships for the most part shall be awarded to undergraduates and for just one year at a time, and that first year students be given preference, except that subsequent annual scholarships may be granted, from year to year, to those students whose record in each preceding year is of sufficiently high standard to justify appointment for another year. . . . The chief requirements for these scholarships, undergraduate and graduate, should be scholastic standing and financial need. . . ."

THE RICHARD THOMAS BROOKE SCHOLARSHIPS. (Established in 1961.) Provided in the will of Mr. Brooke for the purpose of scholarships for deserving youths who are "qualified graduates and/or undergraduates of schools, colleges and universities in the United Kingdom of Great Britain and Northern Ireland."

THE CHARLES A. MEISENHEIMER SCHOLARSHIPS. (Established in 1962.) The will of Mr. Charles A. Meisenheimer provided for two scholarships for students at the University at Chapel Hill, one for a graduate of the public schools of Charlotte, North Carolina, and one for a graduate of the Thompson Orphanage and Training Institution of Charlotte, North Carolina. Recipients are to be chosen by appropriate boards for each of the two institutions in Charlotte.

THE GEORGE JULIAN KOCH SCHOLARSHIP. (Established in 1962.) Established by gifts from Mrs. Koch in memory of her late husband. Income from the fund is to provide for a scholarship with value of $500 per year to be awarded every four years to an entering freshman with high scholastic rank, good character, and promise of future leadership, who plans to major in one of the natural sciences and who needs financial assistance.

THE HARRY T. DAVIS SCHOLARSHIPS. (Established in 1962.) Established through a gift from Mr. Harry T. Davis of $15,000 to establish scholarships in memory of his parents and their twelve children. The income from the fund is to be used to provide scholarships for students from Dare, Carteret, Currituck, Hyde, and Pamlico counties. Financial need, general worthiness, and potential are to be the criteria used in selection of recipients.

THE CLASS OF 1913 SCHOLARSHIP FUND. (Established in 1963.) At its fiftieth class reunion dinner on June 2, 1963, the Class of 1913 donated $10,186.42, the income from which is to provide one or more annual scholarships for students who are residents of the State of North Carolina.

THE M. C. A. SCHOLARSHIP OR GRADUATE FELLOWSHIP IN CREATIVE WRITING. (Established in 1963.) M. C. A., Inc., provides a stipend of $2,500 per year for a scholarship or graduate fellowship to encourage a student who is interested in creative writing for the legitimate theatre, motion pictures, or television.

THE JOHN QUINTIN GANT MEMORIAL SCHOLARSHIP. (Established in 1963.) The income from a trust established by Miss Jessamine Gant, is to be used to establish an endowment to provide one or more scholarships to deserving students.

THE HARRIS ALLEN GANT II, SCHOLARSHIPS. (Established in 1963.) Established by an initial gift of $2,000 from Mrs. Margaret R. Gant in memory of her son, Class of 1948, for the purpose of supporting one or more scholarships.

THE ARMSTRONG CORK COMPANY SCHOLARSHIP. (Re-established in 1964.) Tuition, fees, and an allowance for books are provided by the Armstrong Cork Company for a student who has a superior academic record, financial need, and a desire to enter business or industry.

THE THRIFT LOAN COMPANY SCHOLARSHIP. (Established in 1964.) The Kincaid Foundation of Lexington, Ky., provides $500 each year for an entering freshman from one of the several counties in North Carolina in which the Thrift Loan Company has operations. Recipient is chosen by the University on the basis of financial need and academic merit.

THE ARAB STUDENTS FUND. (Established in 1965.) Through the initiative and contributions of the Arab Students Club at Chapel Hill, a fund has been established for small grants to meet emergency financial crises encountered by Arab students in the University.

THE T. B. HIGDON SCHOLARSHIPS. (Established in 1965.) Through the generosity of Mr. T. B. Higdon of Atlanta, an alumnus of the Class of 1905 and a native of Macon County, North Carolina, scholarships are made available to deserving students with financial need. Preference is given to students from Western North Carolina, particularly Macon County. The annual stipend is $500.

THE HARRY Y. SPENCE MEMORIAL FUND. (Established in 1965.) Through donations from friends, a fund was established in memory of Harry Y. Spence, late of the faculty of the University's School of Public Health, for the purpose of aiding one or more international students.

THE ESCHEATS SCHOLARSHIPS. Receipts from escheated property and interest and earnings thereon have been set apart by the Trustees of the University in a special fund. The earnings from the fund are allocated to the institutions comprising the University of North Carolina for scholarships and loan funds to worthy and needy students who are residents of North Carolina.

THE STUDENT STORES GRANTS AND AWARDS. By action of the Board of Trustees of The University of North Carolina at Chapel Hill, May 1952, profits from the Book Exchange and other student stores are set aside for scholarships and grants-in-aid.

ALUMNI ANNUAL GIVING UNDERGRADUATE SCHOLARSHIPS. A number of undergraduate scholarships are awarded by the Faculty Scholarship Committee from funds made available by Alumni Annual Giving. Awards are made on the basis of academic merit, character, and financial need.

THE ALCOA FOUNDATION SCHOLARSHIPS. (Established in 1965.) Three scholarships, each valued at $750 per year, are made available by The Alcoa Foundation to entering students interested in liberal arts or business administration. Recipients are selected by the University Scholarship Committee and must have academic merit and financial need.

THE ELIZABETH K. JORDAN SCHOLARSHIPS. (Established in 1962 and added to in 1965.) Through the generosity of Mrs. Elizabeth Kline Jordan of Philadelphia, and her family, scholarships are made available to entering students who have expressed an interest in medical or paramedical fields. Recipients are selected by the University Scholarship Committee on the basis of financial need and academic merit.

THE WILLIAM WAY, JR., SCHOLARSHIP. (Established in 1966.) The income from a trust established by Dr. William Way in memory of his grandson, William Way, Jr., an alumnus of the University, will be used to provide scholarship assistance to worthy and needy students.

THE GEORGE MOSES HORTON SCHOLARSHIP. (Established in 1966.) Contributions from an anonymous donor have established a scholarship named in honor of George Moses Horton, a Negro slave of Chatham County, who worked at the University as a janitor before the Civil War and who published several volumes of poems. Preference is to be given to Negro students, first from Chapel Hill, second from Orange County, third from surrounding counties and fourth from other parts of North Carolina. Value, tuition.

THE JOHN W. GRAHAM SCHOLARSHIPS. (Established in 1966.) The will of Mrs. Annie Graham Smallwood of New York, provided for a scholarship fund to be named in honor of her father, John W. Graham, of Hillsborough. Scholarships will be awarded by the University Scholarship Committee.

For scholarships especially for students in the Graduate School and the schools of Law, Medicine, Dentistry, Library Science, Public Health, Social Work, and Nursing, please see the special bulletins of the schools. The above list does not include certain annual contributions for scholarships which are not on an endowment basis.

RESTRICTED FUNDS IN DESIGNATED FIELDS OF STUDY

BOTANY

THE FRENCH BROAD RIVER GARDEN CLUB SCHOLARSHIP. (Established in 1965.) The French Broad River Garden Club of Asheville, N. C. provides $500 per year for an award to a student majoring in botany with preference given to students from certain Western North Carolina counties. Awards are based on merit, character, and financial need.

BUSINESS ADMINISTRATION AND ECONOMICS

THE MARY K. BROWN MEMORIAL SCHOLARSHIP. (Established in 1931.) This scholarship, established by Mrs. James M. Brown in memory of her daughter, who for several years was secretary of the School of Commerce of the University, is awarded to a worthy student who is dependent upon his own efforts to secure an education.

THE ERNEST H. ABERNETHY FELLOWSHIP IN SOUTHERN INDUSTRY. (Established in 1944.) Established by Ernest H. Abernethy to be awarded annually to a graduate student who is required to do research in an industry of importance to the South and to prepare a thesis as the result of the study. The fellowship currently carries a cash award of $2,000 annually.

THE MARVIN B. SMITH, JR., MEMORIAL SCHOLARSHIP. (Established in 1944.) Established and endowed by Mr. and Mrs. M. B. Smith, Sr., Mrs. Alyse Cooper, and J. Harold Smith, of Burlington, North Carolina, as a memorial to their son and brother, Marvin B. Smith, Jr., of the Class of 1926. The fund maintains scholarships, valued at $600 each and annually awarded to students who have their major work in the School of Business Administration. Applicants must be residents of North Carolina. The tenure of the scholarship is for the junior and senior years, provided the holder maintains high moral and scholastic standards. The basis of selection shall be high scholastic rank, character, promise of business leadership, and financial need.

THE PEAT, MARWICK, MITCHELL & CO. SCHOLARSHIP. (Established in 1953.) Established by the Peat, Marwick, Mitchell & Co. accounting firm in the amount of $500 awarded annually to an outstanding student majoring in accounting.

THE BUSINESS FOUNDATION M.B.A. SCHOLARSHIPS. (Established in 1954.) Established by the North Carolina Business Foundation to be given in varying amounts, based upon scholarship, to candidates for the M.B.A. degree.

THE PILOT FREIGHT CARRIERS, INC., SCHOLARSHIP. (Established in 1955.) Established by Pilot Freight Carriers, Inc., in the amount of $500 to be awarded annually to an outstanding transportation major.

THE CENTRAL CAROLINA BANK AND TRUST COMPANY, HOME SECURITY LIFE INSURANCE COMPANY, AND SOUTHLAND ASSOCIATES SCHOLARSHIP. (Established in 1956.) Established by the companies for whom it is named and awarded annually to a male resident from Durham County who definitely is to study economics and business administration, on the basis of character, ability and need.

THE HASKINS & SELLS SCHOLARSHIP. (Established in 1956.) Established by the Haskins & Sells Foundation in the amount of $500 to be presented annually to an outstanding accounting student.

THE ANDREW WARREN PIERPONT MEMORIAL SCHOLARSHIP. (Established in 1957.) Established by family and friends of Professor Andrew Warren Pierpont. The Scholarship, based on merit and need, annually is awarded to a business administration student who has completed his junior year.

THE EXECUTIVE PROGRAM SCHOLARSHIP. (Established in 1957.) Established by the Fourth Executive Group and continued annually by each succeeding group. The amount of $500 is awarded annually to a candidate for the M.B.A. degree. It is based on merit and need, with particular emphasis on merit.

THE HASKINS & SELLS FACULTY ASSISTANCE FELLOWSHIP. (Established in 1958.) Established by the Haskins & Sells Foundation in the amount of $1,000 to be awarded annually to an instructor in accounting who is pursuing a higher academic degree in preparation for a career as an accounting teacher.

THE BUSINESS FOUNDATION PREDOCTORAL SCHOLARSHIPS. (Established in 1958.) Established by the North Carolina Business Foundation to be given in varying amounts, based upon scholarship, to candidates for the Ph.D. degree in economics or business administration.

THE PRICE WATERHOUSE FOUNDATION FELLOWSHIP. (Established in 1958.) Established by the Price Waterhouse Foundation in the amount of $1,000 annually to be used to support a research program by a member of the accounting faculty or a graduate fellowship for students majoring in accounting.

THE JULIAN PRICE FELLOWSHIP IN ECONOMICS AND BUSINESS. (Established in 1959.) Established by the Julian Price Fund created by Mr. Ralph C. Price and Mrs. Kathleen Price Bryan as a memorial to their father. The awards range down from $4,000 and are awarded annually to graduate students. The awards are based on scholarship.

THE NORTH CAROLINA MOTOR CARRIERS ASSOCIATION GRADUATE RESEARCH FELLOWSHIP. (Established in 1959.) Established by the North Carolina Motor Carriers Association to be awarded annually in varying amounts to graduate students in the field of transportation.

THE CARGILL, WILSON AND ACREE SCHOLARSHIP. (Established in 1960.) Established by Cargill, Wilson and Acree, Inc., in the amount of $500 to be awarded annually to a candidate for the M.B.A. degree.

THE ERNST AND ERNST SCHOLARSHIP. (Established in 1960.) Established by Ernst and Ernst in the amount of $500 awarded annually to an outstanding student majoring in accounting.

THE BACHE AND COMPANY M.B.A. FELLOWSHIP. (Established in 1962.) Established by Bache and Company to be given annually to a candidate for the Master of Business Administration degree. Amount of the award varies according to need.

THE SUNSTEIN SCHOLARSHIPS. (Established in 1962.) Donations from Mr. Charles G. Sunstein of Philadelphia, an alumnus of the University, provide tuition scholarships for outstanding primarily out-of-state students, majoring in business administration.

WACHOVIA GRADUATE BUSINESS SCHOOL FELLOWSHIP. (Established in 1963.) Established by the Wachovia Bank and Trust Company in the amount of $1,000 awarded annually to an outstanding candidate for the M.B.A. degree who is a native of the Southeast.

CHEMISTRY

THE LEDOUX FELLOWSHIP IN CHEMISTRY. (Established in 1911 by Dr. Albert R. Ledoux.) The holder of this fellowship, which provides $300 annually, is expected to devote himself to research in chemistry.

THE R. O. E. DAVIS FELLOWSHIP IN CHEMISTRY. (Established in 1963.) The will of Birdie Pritchard Davis provided a bequest in the amount of $10,000, the income from which is to provide a permanent fellowship or scholarship in chemistry.

DRAMATIC ART

THE JOSEPH D. FELDMAN AWARD IN PLAYWRITING. (Established in 1946 by Mr. Phillip Feldman, in memory of his son.) An annual award is made to that student at The University of North Carolina at Chapel Hill who in the judgment of the staff of the Department of Dramatic Art has shown the most promise as a playwright during the past year.

FREDERICK H. KOCH PLAYWRITING SCHOLARSHIP. (Established in 1945.) Established jointly by the University at Chapel Hill and the friends of Professor Koch. Students of junior, senior, or graduate standing may apply, and the choice of candidates, made upon the recommendation of the Department of Dramatic Art, is based on the applicant's talent in playwriting and on his need for financial assistance.

JOURNALISM

THE LOUIS GRAVES SCHOLARSHIP. (Established in 1956.) Income from the School of Journalism Foundation of North Carolina, Inc., provides a scholarship valued at $350 in honor of Louis Graves, teacher of journalism at the University from 1922 to 1924. The award is made on the basis of scholarship, intention to enter newspaper work, and financial need, to a senior student in the School of Journalism.

THE GERALD W. JOHNSON SCHOLARSHIP. (Established in 1956.) Income from the School of Journalism Foundation of North Carolina, Inc., provides a scholarship valued at $350 in honor of Gerald W. Johnson, who taught journalism on the campus from 1924 to 1926. The award is made on the basis of scholarship, intention to enter newspaper work, and financial need, to a senior student in the School of Journalism.

THE O. J. COFFIN SCHOLARSHIP. (Established in 1956.) Income from the School of Journalism Foundation of North Carolina, Inc., provides a scholarship valued at $350 in honor of O. J. Coffin, head of journalism instruction at the University from 1926 to 1953. The award

is made on the basis of scholarship, intention to enter newspaper work, and financial need, to a senior student in the School of Journalism.

THE QUINCY SHARPE MILLS SCHOLARSHIP. (Established in 1956.) The late Mrs. Nancy Sharpe Mills bequeathed to the University $17,000 as an endowment for scholarships in memory of her son, Quincy Sharpe Mills, who was killed in France July 26, 1918. The income from the endowment is for use in providing scholarships for worthy young men who would be unable to study journalism otherwise.

THE BEATRICE COBB SCHOLARSHIP. (Established in 1960.) Income from the School of Journalism Foundation of North Carolina, Inc., provides a scholarship valued at $350 in honor of Miss Beatrice Cobb, for many years secretary of the North Carolina Press Association and owner-editor of the *Morganton News-Herald*. The award is made on the basis of scholarship, intention to enter newspaper work, and financial need, to a student in the School of Journalism.

THE MARK ETHRIDGE SCHOLARSHIP. (Established in 1963.) An anonymous donor provided for an annual award of $350 to an appropriate student chosen by the School of Journalism. The scholarship was established in honor of Mark Ethridge, lecturer in the School of Journalism and an outstanding journalist with several nationally known publications during his distinguished career.

MARINE BIOLOGY

THE H. V. WILSON SCHOLARSHIPS FOR STUDENTS IN MARINE BIOLOGY. (Established originally in 1937, supported subsequently from a fund established jointly by Dr. Henry V. Wilson, Jr., and former students and friends of Professor Wilson.) The holder of this $100 scholarship is expected to pursue graduate studies or research at the seacoast during the summer of award.

MEDICINE

FEDERAL SCHOLARSHIP ASSISTANCE PROGRAM. Beginning with the class entering in the fall of 1966, the School of Medicine will participate in the recently authorized Federal Scholarship Assistance Program. Funds will be awarded on the basis of financial need with recipients being selected from those eligible students who apply for financial assistance.

THE MRS. AUGUSTUS H. JONES SCHOLARSHIP was created in 1930 by Mrs. James H. Parker of New York City. The recipient of this scholarship is to be designated by Mrs. James H. Parker during her lifetime and thereafter upon the recommendation of the New York Chapter of the United Daughters of the Confederacy. Failing this recommendation

from either source, appointment is to be made by the President of the University, preferences being given first to relatives of the late Dr. James H. Parker of New York and second to relations of the donor.

THE PARKER SCHOLARSHIP was established in 1930 by a gift of Mrs. James Henry Parker, through the James Henry Parker Chapter of the New York Division of the United Daughters of the Confederacy, in memory of her husband, the late Dr. James Henry Parker. The award is made annually upon recommendation of Mrs. Parker during her lifetime, and thereafter upon recommendation of the New York Chapter of the United Daughters of the Confederacy. In default of recommendation from either of these sources, the President of the University may designate the recipient.

THE DENNIS LUTHER FOX MEMORIAL SCHOLARSHIP was established in 1953 through a gift to the Medical Foundation of North Carolina, Inc., by Dr. Dennis Bryan Fox, Class of 1935, of Elkin, North Carolina, in memory of his uncle, Dr. Dennis Luther Fox, who practiced medicine for over fifty years in Randolph County. According to the donor, "the recipient of the scholarship should be a resident of North Carolina, of good moral character and should have manifested satisfactory scholastic ability."

THE MCNAIRY SCHOLARSHIP was established in 1953 by Dr. Verne Blackwelder, Class of 1927, of Lenoir, North Carolina, in honor of his aunt, Dr. Carolyn McNairy of Lenoir. The scholarship is to be awarded annually at the discretion of the Dean of the Medical School.

THE RIGGINS SCHOLARSHIP was established through a gift to the Medical Foundation of North Carolina, Inc., by Dr. and Mrs. H. McLeod Riggins of New York City to honor Dr. Riggins' younger brother, the late Dr. John C. Riggins. The scholarship is a merit award given to the rising junior student who has attained the highest cumulative academic average for the first two years work in medical school.

THE DOCTOR WILLIAM HUNT HALL MEMORIAL SCHOLARSHIP was created in 1959 by the will of the late W. Hunt Hall, Jr., of New York City, in memory of his father, Dr. William Hunt Hall, Class of 1855, a Confederate veteran and a practicing physician of New York City. According to the provisions of the bequest contained in Mr. Hall's will, "The Trustees are directed to allocate the income from the principal to be used by the said Trustees of the University at Chapel Hill for the medical education of worthy students who, in their judgment, are in need of financial assistance."

THE ADAM THORP MEMORIAL SCHOLARSHIP was established in 1960 in memory of Dr. Adam Thorp, Class of 1919, of Rocky Mount, North Carolina, by a group of his friends in eastern North Carolina through

contributions to the Dr. Adam Thorp Memorial Fund of the Medical Foundation of North Carolina, Inc. Dr. Thorp was president of the Alumni Association during the period 1956-1957. The scholarship is awarded to worthy students of medicine in financial need.

HOME SAVINGS AND LOAN ASSOCIATION SCHOLARSHIPS were established in 1960 by the Home Savings and Loan Association, of Durham and Chapel Hill, North Carolina, for worthy and needy students of medicine and are awarded annually.

THE KENNEDY SCHOLARSHIP was established in 1960 with the help of Dr. Edward C. Curnen, Jr., former Professor of Pediatrics in the School of Medicine, from a bequest by the late Robert S. Kennedy, an old family friend of Dr. Curnen. The scholarship is awarded annually in memory of Mr. Kennedy's sister, Margaret Jane (Kennedy) Osborne; his brother, Maxwell Kennedy; and Robert S. Kennedy.

THE NORTH CAROLINA NATIONAL BANK SCHOLARSHIPS were created in 1960 through a gift to the Medical Foundation of North Carolina, Inc., by the Bank of Chapel Hill. These scholarships are awarded annually to worthy and dedicated students in the School of Medicine.

THE DOCTOR JOHN A. LOWDER MEMORIAL SCHOLARSHIP was created in 1961 by Mr. and Mrs. S. Ray Lowder, of Lincolnton, North Carolina, in memory of their son, Dr. John A. Lowder, Class of 1956. The income from the Memorial Fund established within the Medical Foundation of North Carolina, Inc., by Dr. Lowder's classmates, friends, and family is used for an annual scholarship to a deserving and needy student in the School of Medicine.

THE JAMES CRAIG JOYNER FOUNDATION SCHOLARSHIP was created in 1961 by a gift from the James Craig Joyner Foundation, of New York City. Dr. James Craig Joyner entered the University from Princeton, North Carolina. In 1915, following graduation, he attended the School of Medicine.

THE PFIZER LABORATORIES MEDICAL SCHOLARSHIP was established in 1962 by the Pfizer Laboratories Division of Chas. Pfizer & Company, Inc., of New York City, "to be made available to apply toward the academic and subsistence expenses of a student selected on a basis of scholastic record, financial need, or both."

THE HOUSE STAFF SCHOLARSHIP was established by the House Staff Council of the North Carolina Memorial Hospital and the Residents' Fund Advisory Committee to be awarded to a medical student in The University of North Carolina School of Medicine. It was awarded for the first time in 1963-64.

THE DR. W. LUNSFORD LONG, JR., SCHOLARSHIP was established in 1963 in memory of the late Dr. Long, a practicing physician in Raleigh

and an alumnus and member of the faculty of The University of North Carolina School of Medicine through contributions from many of his friends.

THE DR. HILLORY M. WILDER SCHOLARSHIP FUND was established under the will of Mrs. Celeste W. Blake in memory of her father, Dr. Hillory M. Wilder of Charlotte, North Carolina. Beginning in 1963 the income from this endowment is used for scholarships to aid students in need of financial assistance in the pursuit of study for the medical profession. The dominant purpose in awarding these grants is to "produce the greatest benefit in the advancement of the science of medicine among residents of North Carolina and the alleviation of human suffering in North Carolina."

THE MEDICAL STUDENT WIVES ASSOCIATION SCHOLARSHIP. The scholarship was awarded for the first time in 1964. It is the intent of the medical student wives to continue this annual gift from proceeds from their service projects.

THE ALAMANCE-CASWELL MEDICAL AUXILIARY SCHOLARSHIP. First awarded in 1964, this fund was established to provide financial assistance to a worthy student, preferably from Alamance or Caswell counties.

THE DR. JOHN COTTEN TAYLOE SCHOLARSHIP. Bearing the name of a loyal alumnus, active Trustee and long-time friend of the University of North Carolina, this scholarship was made possible by a bequest to the Medical Foundation of North Carolina, Inc., by Dr. Tayloe and was awarded for the first time in 1964.

THE UNIVERSITY OF NORTH CAROLINA MEDICAL ALUMNI LOYALTY FUND SCHOLARSHIPS. A limited number of these scholarships has been made possible through gifts from alumni and friends of the School of Medicine.

THE REECE BERRYHILL SCHOLARSHIP was established in 1964 by the University of North Carolina Medical Parents' Club to honor Dr. W. Reece Berryhill, Dean of the School of Medicine, 1941-1964. This scholarship is a merit award given to the rising senior student who has attained the highest cumulative academic average for the first three years of work in the Medical School.

THE JOHN MOTLEY MOREHEAD FELLOWSHIPS IN MEDICINE were established in 1965. Nominees for the fellowships are selected by the Admissions Committee of the School of Medicine from its applicants for each entering class. From the nominees three Fellows are selected by a special committee employing the criteria of scholastic ability and attainment, motivation toward the field of medicine and promise of distinction in that field, and personal qualifications. The fellowships provide tuition, fees, and $2500 per year for four years.

MUSIC

THE ERIC SCHWARZ MEMORIAL SCHOLARSHIP. This scholarship of $250 is awarded annually by the University Scholarship Committee as a memorial to Eric Schwarz, a freshman at the University in 1943-1944 who was killed in action in Germany, February 18, 1945. The scholarship is provided by his parents, Dr. and Mrs. Berthold T. D. Schwarz, of Montclair, New Jersey. The award is made to an entering freshman with special talents in music.

THE GERRIE HAM MEMORIAL FLUTE SCHOLARSHIP. (Established in 1960.) This scholarship established by Dr. and Mrs. George C. Ham in memory of their daughter, Gerrie, and supported by a number of individual gifts, provides tuition for flute instruction, valued at $150, and is awarded annually to a student proficient in flute-playing.

THE LEMUEL P. SEDBERRY SCHOLARSHIPS. (Established in 1962.) These scholarships represent the interest on a bequest from the estate of the late Lemuel P. Sedberry, a skilled accompanist and a long-time friend of the Music Department. Each year two or three such scholarships, each valued at the cost of in-state tuition at this University, are awarded to talented freshmen who plan to major in music or, exceptionally, to incoming sophomores and juniors.

THE PIANO CLINIC SCHOLARSHIPS. (Established in 1962.) Proceeds from the annual four-day Clinic for Piano Teachers and Students, conducted each summer by the Music Department and the Extension Division, make possible the awarding of two or three scholarships each year valued at the cost of in-state tuition at this University. They are awarded to outstanding freshman pianists who plan to major in music or, exceptionally, to incoming sophomores and juniors.

THE SIDNEY M. DOWD SCHOLARSHIPS. (Established in 1965.) Through a benefaction from Mr. Sidney M. Dowd of Blowing Rock, North Carolina, awards are made to students majoring in music whose principal interests and ability lie in the field of performance, with preference given to piano majors. The current stipend is $2,000 per year. Awards are based on character, academic standing, and achievements and promise of future distinction in the field of music.

THE LAWRENCE W. NEWMAN VIOLIN SCHOLARSHIP. (Established in 1966.) This scholarship was established in 1966 by Mrs. Lawrence W. Newman in memory of her late husband, an enthusiastic devotee of fine violin music and a valued member of the Chapel Hill community. It provides $1,600 annually to an outstanding undergraduate or graduate major in violin, or more exceptionally to a major in viola, violoncello, or string bass.

PATHOLOGY

FRED C. AND LELIA D. OWEN MEMORIAL FUND. This fund was established by Mr. and Mrs. Fred C. Owen, staunch advocates of research on the pathology of blood at the University, and by the Hemo-Cardiac Foundation, Inc., and consists of income from a trust fund held by the Durham Foundation. The fund is restricted to use in the Department of Pathology and its Francis Owen Blood Research Laboratory for research in the pathology of blood. It may be used to support a Professorship of Pathology, one or more fellowships in pathology, or in other ways to promote such research. It is to be used to support research in pathology of the blood by Dr. K. M. Brinkhous and his associates for the duration of their association with the University. Awards will be made by full professors in the Department of Pathology.

PHARMACY

THE AMERICAN FOUNDATION FOR PHARMACEUTICAL EDUCATION SCHOLARSHIPS. This foundation offers annually $400 to be utilized by the School for undergraduate pharmacy scholarships, and the School awards these scholarships to college students enrolled in the fourth- or fifth-year classes who are in need of financial aid, and who have established evidence of competence and scholastic ability (maintaining a rank in the upper one-quarter of their class or an average of *B* as a minimum).

THE DAVID ASTOR DOWDY PHARMACY SCHOLARSHIP. (Established in 1948.) Endowed by the Mann Drug Stores of High Point. The fund maintains a pharmacy scholarship valued at $225 annually. The tenure of the scholarship is for one year, provided the holder of the award maintains high standards both in character and in scholarship, but it may be renewed each year until graduation at the end of five years. The basis of selection shall be high scholastic rank, character, promise of professional aptitude, and financial need.

The scholarships that follow are valued at $250 or more for each.

THE C. T. COUNCIL SCHOLARSHIPS. Two in number. Established in 1926 by Mr. C. T. Council, of Durham.

THE JUSTICE DRUG COMPANY SCHOLARSHIPS. Three in number. Established in 1931 by the Justice Drug Company, of Greensboro.

THE SCOTT DRUG COMPANY SCHOLARSHIPS. Three in number. Established in 1931 by the Scott Drug Company, of Charlotte.

THE W. H. KING DRUG COMPANY SCHOLARSHIPS. Two in number. Established in 1931 by the W. H. King Drug Company, of Raleigh.

THE VIVIAN SPRADLIN SMITH SCHOLARSHIP. (Established in 1932 by the Woman's Auxiliary of the North Carolina Pharmaceutical Association as a loan fund and converted in 1946 as an endowed scholar-

ship. It was named to honor Mrs. Vivian Spradlin Smith in 1959.) This scholarship is given annually to a deserving pharmacy student who shows both need and ability.

THE C. B. MILLER MEMORIAL SCHOLARSHIP. Established in 1945 by Mr. B. R. Ward of Goldsboro, in memory of Mr. C. B. Miller, of Goldsboro.

THE OWENS, MINOR & BODEKER SCHOLARSHIP. Established by the parent organization in 1945 and continued by Owens, Minor & Bodeker, Inc., of Richmond, Virginia.

THE GRACE K. EDWARDS SCHOLARSHIP. Established in 1950 by the Charlotte Women's Druggist Auxiliary.

THE CHARLOTTE WOMEN'S DRUGGIST AUXILIARY SCHOLARSHIP. Established in 1953 by the Charlotte Women's Druggist Auxiliary.

THE GREENSBORO DRUG CLUB AUXILIARY SCHOLARSHIP. Established in 1954 by the Greensboro Drug Club Auxiliary.

THE MCKESSON & ROBBINS SCHOLARSHIPS. Two in number. Established in 1955 by the McKesson & Robbins, Inc., of Charlotte.

THE NORTH CAROLINA PHARMACEUTICAL RESEARCH FOUNDATION SCHOLARSHIPS. Four in number. Established in 1955.

THE ECKERD SCHOLARSHIPS. Three in number. Established in 1957 by the Eckerd Drug Stores.

THE N. C. MUTUAL WHOLESALE DRUG COMPANY SCHOLARSHIPS. Two in number. Established in 1960 by the N. C. Mutual Wholesale Drug Company, of Durham.

THE BEARD SCHOLARSHIP. Established in 1960 by a gift from Mrs. Gladys A. Beard to the J. G. Beard Memorial Fund of the North Carolina Pharmaceutical Research Foundation as an endowment to support undergraduate scholarships.

THE MAY SCHOLARSHIP. Established in 1960 through a bequest by T. H. May of Wake Forest to the North Carolina Pharmaceutical Research Foundation, endowing the Thomas H. and Bertie Redford May Memorial Fund, with its income designated for financial aid to worthy undergraduate students.

THE PEABODY DRUG COMPANY SCHOLARSHIPS. Two in number. Established in 1962 by the Peabody Drug Company, of Durham.

THE O'HANLON-WATSON DRUG COMPANY SCHOLARSHIP. Established in 1962 by the O'Hanlon-Watson Drug Company, of Winston-Salem.

The scholarship that follows is valued as stated:

THE PEPSODENT PRESIDENTIAL AWARD. Valued at $100 per year for five years and established in 1956 by the Pepsodent division of Lever

Brothers Company, of New York City. The award is presented by the President of the North Carolina Pharmaceutical Association to the most worthy freshman selected by the Committee on Scholarships of the School of Pharmacy.

Scholarship loans valued at $250:

THE NORTH CAROLINA PHARMACEUTICAL ASSOCIATION SCHOLARSHIP LOANS. Three in number. Established as scholarships in 1938 by the North Carolina Pharmaceutical Association. In 1954 these grants were converted to non-interest bearing loans.

PHILOSOPHY

THE GRAHAM KENAN FELLOWSHIP IN PHILOSOPHY. (Established in 1921 by Mrs. Graham Kenan.) This annual fellowship, established in memory of an alumnus and trustee of the University, is supported by the income from an endowment of $25,000.

THE WILLIAMS FELLOWSHIPS IN PHILOSOPHY. (Established in 1941.) Established by the will of Dr. Henry Horace Williams in honor of his mother, Mary Taylor Williams, and his wife, Bertha Colton Williams. The number, value, and recipients of these fellowships are decided each year by the professors in the Department of Philosophy of the University.

PHYSICAL THERAPY

THE JAMES KIRKPATRICK NORFLEET SCHOLARSHIPS. (Established in 1958.) Four scholarships were established from funds donated to the School of Medicine by Miss Gizelle Norfleet, of Winston-Salem, North Carolina. Two, in the amount of $200 each, are available to juniors, and two, in the amount of $300 each, are available to seniors. Awards are made on the basis of scholarship and need to students enrolled in the Curriculum in Physical Therapy.

OFFICE OF VOCATIONAL REHABILITATION SCHOLARSHIPS. (Established in 1961.) Scholarships for junior and senior students in physical therapy are available directly from the Section of Physical Therapy from funds from the Office of Vocational Rehabilitation of the United States Department of Health, Education and Welfare. Scholarships not to exceed $800 for juniors and $1,000 for seniors are currently available. These may be awarded to individuals in sums not below $400 for juniors or $500 for seniors. Awards are made by the Scholarship Committee of the Section of Physical Therapy and applications for such scholarships are available through this office.

RADIO-TELEVISION

THE WBT-WBTV-WBTW SCHOLARSHIP OF THE JEFFERSON STANDARD FOUNDATION. (Established in 1954.) Valued at $2,500 ($625 annually), this scholarship was established by the Jefferson Standard Foundation to encourage worthy students to obtain college training leading toward a career in radio or television broadcasting. The award is open to residents of North and South Carolina who are graduates of accredited high schools or preparatory schools. It is renewable over a four-year period provided satisfactory academic progress is demonstrated. Criteria for selection are academic ability and achievement, sound character, and manifest interest in radio and television broadcasting as a career.

SOCIOLOGY

THE HOWARD W. ODUM MEMORIAL GRADUATE FELLOWSHIP. (Established in 1960.) The Howard W. Odum Memorial Graduate Fellowship in Sociology is awarded each year by a faculty committee of the Department of Sociology and Anthropology. The award of $400 is nonservice in character. The principal sum of the fellowship, honoring the late Dr. Howard W. Odum, was raised by contributions from students, colleagues, and friends of Dr. Odum. The recipient is known as the Howard W. Odum Fellow.

LOAN FUNDS

THE DEEMS FUND. (Established in 1879.) A fund of $600 was established by the Reverend Charles Force Deems, D.D., late pastor of the Church of the Strangers, New York City, formerly a professor in the University, in memory of his son, Lieutenant Theodore Disosway Deems. In 1881, the fund was enlarged by a gift of $10,000 from Mr. William H. Vanderbilt.

THE MARTIN FUND. Interest from this fund, established by the bequest of Mr. Thomas D. Martin, of Raleigh, became available for loans during the session of 1908-1909.

THE HOGUE FUND. Interest from a fund of $4,000 established by the Reverend R. W. Hogue of Baltimore, Maryland, is to be loaned to worthy students in the University.

THE HEWITT FUND. Interest from a fund of $18,700, established in 1916 by the bequest of Mr. Joseph Henry Hewitt, of Princess Anne County, Virginia, will be used for loans to "needy and deserving students" of the University.

THE HOLT FUND. The principal of a fund of $10,000, established by Mr. Lawrence S. Holt, Jr., of Burlington, North Carolina, is to be loaned to "worthy and needy students of the University." In addition,

scholarships in the University have been set up from the income of the fund.

THE VICTOR S. BRYANT FUND. The principal and interest of a fund of $7,500, established by the bequest of Mr. Victor S. Bryant, of Durham, North Carolina, will be used for loans to "worthy and needy young men" at the University.

THE SEELY FUND. A fund of $1,000 has been established by Mr. F. L. Seely, of Asheville, North Carolina, the principal of which is to be loaned to worthy and needy students, and the income therefrom to be added to the principal.

THE E. S. BLACKWOOD MEMORIAL LOAN FUND was created by bequest of Miss Katherine B. Blackwood, of New York City, and consists of $10,000 "to be used as a loan fund for needy students." This fund is administered in the same manner as the Deems Fund.

THE J. E. LEAR FUND. This fund of $5,244 became available in 1924. The fund was the result of installation work done by the senior class in electrical engineering under the supervision of Professor J. E. Lear.

THE A. B. ANDREWS LOAN FUND. In May 1925, the five children of the late Colonel A. B. Andrews (William J. Andrews, Class of 1891; Alexander B. Andrews, Class of 1893; Mrs. W. M. Marks; John H. Andrews, Class of 1897; and Graham H. Andrews, Class of 1903) established a fund of $2,500 of which the principal and interest are to be loaned to worthy students. This fund has been increased to $4,750 through subsequent gifts from Mr. Alexander B. Andrews, of Raleigh, North Carolina. The A. B. Andrews Loan Fund is administered as are other loan funds from the University and is established as a memorial to Colonel A. B. Andrews, a noted railroad builder in North Carolina and a Trustee of the University. It is requested by the donors that assistance from this fund be rendered first to students from those counties of North Carolina in which Colonel Andrews built railroads and second to students from those counties through which lines of the S.A.L., Norfolk-Southern, and Southern Railway systems run.

THE JOSEPH E. POGUE LOAN FUND. This fund of $1,000 was presented to the University in April 1930, by Mrs. Joseph E. Pogue as a memorial to her husband, the late Mr. Joseph E. Pogue. The principal and interest are to be loaned to deserving students.

THE EDMONDS LOAN FUND. This fund of a little over $800 has been set up by the Class of 1910 as a memorial to W. R. Edmonds, a member of the class.

GRAIL LOAN FUND. In June 1930, the Order of the Grail, an undergraduate organization at the University at Chapel Hill, gave $1,400 to

be known as the Grail Loan Fund. Additional gifts by the Order of the Grail and income from interest have greatly increased the fund.

THE ALDEN JOSEPH BLETHEN III, MEMORIAL LENDING FUND. During the fall of 1930, Colonel C. B. Blethen, of Seattle, Washington, gave $2,000 to be known as the Alden Joseph Blethen III, Memorial Lending Fund. This he did as a memorial to his son, A. J. Blethen III, a member of the Class of 1934. The principal of the fund is to be loaned to deserving students.

THE ROCKINGHAM COUNTY ALUMNI LOAN FUND. In 1932, a fund of $713.32 was advanced by the Rockingham County Alumni Association. It is subject to recall by the Association.

THE RHO CHI LOAN FUND. The Xi Chapter of the Rho Chi Honorary Society has established a loan fund for deserving students of Pharmacy.

THE CHARLES L. COON MEMORIAL LOAN FUND. A fund of $1,415 established by the administrators of the Charles L. Coon Memorial Loan Fund of Wilson, North Carolina, in September 1934. The funds to be loaned to graduates of the Charles L. Coon High School and Fike Senior High School of Wilson, North Carolina, upon the written recommendation of the principal of Fike Senior High School.

THE JOHN B. WEAVER LOAN FUND. In 1937, a fund of $1,915 was established by Dr. William Jackson Weaver of Asheville, North Carolina, in memory of his father, John B. Weaver. It is administered under the same terms as the Deems Fund.

THE SHERMAN LOAN FUND. A fund established in 1939 by Dr. Joshua Sherman, Class of 1906, of Lancaster, Pennsylvania, and amounting at present to $1,419.28. The fund is available for student loans on the usual terms.

THE BY THE WAY LOAN FUND. (Established in 1940.) Established by an anonymous gift of $2,000. Loans shall be made to highly selected male students of the University at Chapel Hill preferably to medical students and carefully selected juniors and seniors in the undergraduate body. Loans shall be given on the basis of need, sound character, and excellence in scholastic work.

THE MAJOR DAVID C. AND MARTHA REEVES EDWARDS LOAN FUND. A fund established June 10, 1940, by an initial gift of $1,000 from Dr. Arthur Edwards and Mr. George Edwards as a memorial to their father and mother of Alleghany County who educated four sons at the University. Donors have requested that assistance from this fund be rendered first to relatives, second to students from Alleghany County, and third to other students from North Carolina and states adjacent to North Carolina. In any case, however, the recipient of the loan must comply with all requirements imposed by the University Loan

Fund Committee. Subsequent additions to the fund by the donors have increased it to over $680,000.

THE KELLOGG LOAN FUNDS. (First established in 1942.) The W. K. Kellogg Foundation has established three loan funds. Those for medical students and public health students were established in 1942. The fund for dental students was established in 1958. These provide loans at a low rate of interest to students in the schools of Public Health, Medicine, and Dentistry.

THE LOAN FUND OF THE CLASS OF 1942. The class gift of $350 in 1942 was set up as a loan fund under the usual terms for the administration of such funds.

THE WINSTON-SALEM DRUGGISTS' LOAN FUND. Organized Druggists of Winston-Salem in 1942 gave $200 to be loaned to worthy students of pharmacy.

THE DAVID ANDERSON ALLEN FUND. Established in 1945 by the wife (Jenny Ann Efird Allen) and children (Paul Haywood and Mary Ann) of David Anderson Allen, who graduated with the Class of 1938. Lieutenant Allen died in the service of his country on March 19, 1945, on the *U.S.S. Franklin*. The income from this fund is available as a loan or gift to deserving students at the University from Mecklenburg County, North Carolina.

THE DR. JOHN R. EDWARDS LOAN FUND. This fund was established in 1945 by a gift of $1,500 to the University by Dr. B. O. Edwards, of Asheville, North Carolina, as a memorial to his son, the late Dr. John R. Edwards, a graduate of the University. This amount was later supplemented by an additional $1,500 from Dr. Edwards' daughter, Mrs. Foster Mackenzie, making the total fund $3,000. The principal and interest are to be loaned to deserving students, with preference given to North Carolina premedical students.

THE EDNA TYNER LANGSTON FUND. (Established in 1945.) Dr. Henry J. Langston established this fund in memory of Edna Tyner Langston. Preference is to be given to qualifying students in the Department of Dramatic Art.

THE STRICKLAND MEMORIAL FUND. (Established in 1945.) Dorothy M. Strickland established a loan fund in memory of her father, Dr. James Thomas Strickland, Class of 1880. Loans are to be made to medical students who are worthy, southern, white students of good character and good moral habits, who are preferably descendents of colonial pioneers of northern European stock. Borrowers are obliged to write the donor once a year as long as the loan is outstanding and to visit the donor at least once.

THE OLIVIA DUNN STUDENT LOAN FUND. A fund of approximately $25,000 established in 1946 at the bequest of Mary Olivia (Birdie)

Dunn of Wake County as a memorial to her mother, Olivia Godwin Dunn. The fund is to be loaned to worthy students in accordance with the usual terms of the University student loan funds policies.

THE BENJAMIN WYCHE, SR., FUND. (Established in 1950.) Ernest H. Wyche established a loan fund in memory of his uncle, Benjamin Wyche, Class of 1894. Loans are to be made to students in good standing, with financial need, preference being given to upperclassmen.

THE SALLIE A. HUNT DENTAL MEMORIAL LOAN FUND. This fund was established in 1950 by a gift to the University from Dr. R. Fred Hunt of Rocky Mount, North Carolina, as a memorial to his mother, the late Sallie A. Hunt, who was born in Nash County. The principal and interest are to be loaned to deserving North Carolina junior and senior (preferably senior) dental students.

THE R. H. J. BRYSON FUND. (Established in 1951.) Mr. and Mrs. Herman J. Bryson established the fund in memory of their son, R. H. J. Bryson, who died while a student in the Medical School of the University. Loans from this fund are made only to medical students.

THE WOODWARD-FLEMING LOAN FUND. This fund, founded in 1951, is designed to encourage advanced training and educational experiences for dental teachers or prospective teachers of dentistry at the University at Chapel Hill, and also, to provide a source of loans for worthy students of dentistry. The fund is made possible through a gift from Mr. John W. Fleming and Mr. Robert Woodward, of the Fleming Dental Laboratory and the Woodward Prosthetic Company, respectively.

THE DENTAL FOUNDATION LOAN FUND. (Established in 1954.) The Dental Foundation of North Carolina, Inc., established this fund to be used by students in the School of Dentistry.

THE JESSE KNIGHT DOZIER LOAN FUND. A fund of approximately $135,000 established in 1954 by Dr. Jesse Knight Dozier, native of Tarboro, North Carolina, Class of 1899, and resident of Pasadena, California, at the time of his death in 1954. Dr. Dozier's bequest enables the University to offer major loan fund assistance on very favorable terms to public school teachers and those planning to teach, who are registered in the University's School of Education while using aid from this loan fund.

THE NORTH CAROLINA DENTAL AUXILIARY FUND. (Established in 1954.) The North Carolina Dental Auxiliary established this fund to be used by students in the School of Dentistry.

THE WILLIAM T. HOLLAND MEMORIAL LOAN FUND. Income and principal from this fund of $37,289.19 established in 1954 by Mrs. Byrd T. Holland of Charlotte, North Carolina, as a memorial to her

husband, William T. Holland, to be used for loans to needy and deserving boys attending the University. Students majoring in geology shall be given first consideration.

THE WILLIAM A. WHITAKER, SR., AND ANNA BITTING WHITAKER LOAN FUND. A fund of $5,000 established in 1955 by William A. Whitaker, Jr., of Winston-Salem, North Carolina and New York City, as a memorial to his father and mother, who educated four sons at the University. The income from the fund is to be used for loans to worthy students.

THE JAMES B. BULLITT LOAN FUND. (Established in 1956.) This gift given by Dr. James B. Bullitt is to be used for loans to students in the School of Medicine.

THE CHARLOTTE DENTAL AUXILIARY STUDENT LOAN FUND. (Established in 1959.) Established by a gift of $600 from the Charlotte Dental Auxiliary. To be restricted for use of students in dentistry.

THE GEORGE COFFIN TAYLOR STUDENT LOAN FUND. (Established in 1959.) Established by a gift from Dr. George Coffin Taylor with the idea that other donors may contribute to this fund who have no desire to establish a fund in their own name. Disbursements from this will be in accordance with the usual procedures for student loan funds.

THE JAMES S. TIPPETT MEMORIAL LOAN FUND. This fund of approximately $1,200 was presented to the University in 1959 by friends and former students as a memorial to the late Professor Tippett of the School of Education. Money from this fund is loaned to students in elementary education.

THE LYNN MCIVER MEDICAL STUDENTS FUND. (Established in 1959.) The will of Elva Bryan McIver provided for the sale of a farm in Lee County to establish a loan fund in memory of her late husband to be used by worthy, deserving students of good character in the School of Medicine.

THE THOMPSON DENTAL STUDENT LOAN FUND. (Established in 1959.) Established by a gift of $500 from the Thompson Dental Company. The fund is limited to loans to dental students and is to be administered in accordance with the regular University student loan fund policies.

THE FRANK P. GRAHAM EMERGENCY FUND. (Established in 1960.) This fund was established by gifts from an anonymous donor in honor of Dr. Frank P. Graham, former President of the University at Chapel Hill. Emergency loans are to be made to students in good standing to relieve them of unanticipated financial difficulty. These loans are to be repaid within specified periods of time, none of which is to be longer than six months.

THE HARRIET L. HIGLEY MEMORIAL STUDENT LOAN FUND. (Established in 1960.) Established by a gift of $1,020 from the Dental Foundation of North Carolina. Loans from the fund will be limited to qualified graduate students pursuing the study of orthodontics at The University of North Carolina at Chapel Hill.

THE WILLIAM GETZ DENTAL STUDENT LOAN FUND. (Established in 1960.) Established by a gift of $500 from Mr. William Getz. Funds to be used for loans to students of dentistry.

AMERICAN DENTAL ASSOCIATION LOAN FUND. (Established in 1962.) Established upon receipt of $2,005.50 from the Fund for Dental Education, Incorporated, American Dental Association. The loan fund shall be used for loans for students of dentistry.

THE COLLIER COBB LOAN FUND. (Established in 1962.) A gift of $1,000 from the family of Collier Cobb, formerly a teacher in the Department of Geology at the University, established a loan fund in his memory to be loaned to students in the Department of Geology.

THE RALEIGH SALES EXECUTIVES CLUB LOAN FUND. (Established in 1962.) The gift of $5,000 from the Raleigh Sales Executives Club established a fund to be used for loans to needy juniors and seniors in the School of Business Administration, with first preference given to students from Wake County, and second preference to students from other North Carolina counties.

THE EDGAR B. AND ANTOINETTE S. JENKINS LOAN FUND. (Established in 1962.) A fund of $5,000 was established by Dr. and Mrs. Jenkins of Greenville, North Carolina, to provide loans for deserving and needy students.

THE MARGARET OSBORNE OGLESBY GRAY LOAN FUND. (Established in 1962.) A fund of $1,000 was donated by Mrs. Gray's sons, James G. Oglesby and E. Randolph Oglesby, Jr., primarily in memory of their mother, who had been interested in and talented in music, in order to provide loans to deserving and needy students of the Department of Music.

THE T. M. STANBACK LOAN FUND. (Established in 1962.) A fund of $5,000 was donated by Mr. T. M. Stanback of Salisbury, North Carolina, to provide loans for worthy and needy students of pharmacy.

THE JOHN C. BRAUER DENTAL STUDENT LOAN FUND. (Established in 1963.) The Yaupon Study Club established this fund in honor of Dr. Brauer, Dean of The University of North Carolina Dental School, in order to provide matching funds to help make available loans to deserving and needy undergraduate dental students.

FIRST DISTRICT DENTAL SOCIETY STUDENT LOAN FUND. (Established in 1964.) A loan fund for dental students established by a donation of

$160 from the Dental Society of the First District of the North Carolina Dental Society.

THIRD DISTRICT DENTAL SOCIETY STUDENT LOAN FUND. (Established in 1964.) A loan fund for dental students established by a donation of $500 from the Dental Society of the Third District of the North Carolina Dental Society.

FIFTH DISTRICT DENTAL SOCIETY STUDENT LOAN FUND. (Established in 1964.) A loan fund for dental students established by a donation of $1,000 from the Dental Society of the Fifth District of the North Carolina Dental Society.

UNIVERSITY OF NORTH CAROLINA DENTAL ALUMNI SCHOLARSHIP LOAN FUND. (Established in 1965.) A loan fund for dental students established by a donation of $1,000 from the University of North Carolina Dental Alumni Association.

NORTH CAROLINA DENTAL SOCIETY DENTAL STUDENT LOAN FUND. (Established in 1965.) A loan fund for dental students established by a donation of $1,889 from the North Carolina Dental Society.

THE BURWELL BADGET MASON MEMORIAL LOAN FUND. (Established in 1965.) This loan fund was established through a gift of $1,500 from Mr. Robert E. Mason of Charlotte, North Carolina, in memory of his brother, the late Burwell Badget Mason.

THE DR. B. C. WEST MEMORIAL LOAN FUND. (Established in 1965.) A loan fund for medical students established by a gift of $510 contributed to the Lenoir-Greene-Jones Counties Medical Society to honor the memory of the late Dr. B. C. West of Kinston, North Carolina, an alumnus of the University.

THE MILTON T. NAFEY AND MARY M. NAFEY STUDENT LOAN FUND. (Established in 1965.) The will of Mrs. Mary M. Nafey provided a generous bequest for the establishment of a loan fund to be used by worthy and needy students of this University.

THE MITTIE E. PICKARD LOAN FUND. (Established in 1964.) This fund was established by gifts from friends of Miss Mittie E. Pickard to honor Miss Pickard upon the completion of her fiftieth year as a medical technologist in the School of Medicine. Funds to be used for loans to students in the Medical Technology program.

EDWIN C. MARKHAM LOAN FUND. (Established in 1966.) Funds contributed by friends of the late Dr. Edwin C. Markham, Smith Professor of Chemistry at the University, established a permanent loan fund in memory of Dr. Markham. Preference is to be given to high school teachers of science and mathematics wishing to do postgraduate work at the University.

ROGER ALEXANDER DAVIS LOAN FUND. (Established in 1966.) A loan fund established by the students of Craige College and the Residence College Council for the use of students with financial emergencies. These loans are usually made in small sums for a limited period of time.

THE NORTH CAROLINA MEDICAL CARE COMMISSION LOAN FUND. Loans are available to students in specific studies in the medical and other health related professions who agree to practice their specialties in communities of limited population and specified health programs in North Carolina in which there is an urgent need. Assistance is restricted to selected North Carolina residents in need of financial aid who have scholastic potentialities for completing courses of study. All loans are cancelled on the basis of professional practice in accordance with the loan agreement one calendar year for each academic year or fraction thereof for which a loan is received. If the recipient is unable to practice as specified upon completion of professional training, he agrees to repay the loan on demand at 6% interest.

THE AMERICAN MEDICAL ASSOCIATION—EDUCATION AND RESEARCH FOUNDATION MEDICAL EDUCATION LOAN PROGRAM. Students who have completed a year of medical studies are eligible for consideration for interest-bearing, long-term loans up to $1500 per year.

THE MEDICAL PARENTS EMERGENCY LOAN FUND. Through a gift of $10,000, The Medical Parents of The University of North Carolina at Chapel Hill has established a fund to be used for non-interest-bearing, short-term loans for students of medicine.

THE JIM BAKER LOAN FUND. This medical student loan fund was established in 1955 in appreciation of Dr. Charles B. Mangum and Dr. William DeB. MacNider and in honor of James Daniel Baker, the father of Dr. Lenox D. Baker. Small immediate loans are available through the Dean's office, School of Medicine.

THE MEDICAL AUXILIARY PAST PRESIDENTS LOAN FUND. Initiated by the women who have served as president of the Auxiliary of the Medical Society of the State of North Carolina, this fund is perpetuated through annual contributions from the past presidents. Small immediate loans are available to medical students through the Dean's office, School of Medicine.

THE DR. AND MRS. EDGAR B. JENKINS STUDENT LOAN FUND. Established by a gift from Dr. and Mrs. Jenkins in 1965, this fund will be used to assist worthy medical students in financing their medical education.

THE JOHN H. MILLER LOAN FUND was created in 1954 by Dr. John H. Miller, Class of 1942, and Mrs. Miller of Bartow, Florida, for medical students.

THE EMERGENCY STUDENT LOAN FUND

In the winter and spring of 1932, the University faced a genuine emergency growing out of an announced reduction of state appropriations by 30 per cent, and the fact that between five hundred and seven hundred students were without funds with which to continue their schooling. When this situation was presented by President Graham, students ($2,057.14), faculty ($2,035.38), and people and community organizations of Chapel Hill ($970.22), various chapters of the D.A.R., U.D.C., and other committees of women, began building a student loan fund. Alumni and friends of the University everywhere contributed to raise the total of new loan resources to $109,000, known collectively as "The Emergency Student Loan Fund." The portions of that fund which for some appropriate reason were separately established are listed below. Unless otherwise indicated, the funds are loaned on the same terms as is the Deems Fund.

THE BURTON CRAIGE LOAN FUND. A fund of $1,000 established February 6, 1932, by Mr. Burton Craige, Class of 1897, of Winston-Salem, North Carolina.

THE SARAH WATTS MORRISON LOAN FUND. A fund of $1,000 established March 4, 1932, by Mrs. Sarah Watts Morrison of Durham and Charlotte, North Carolina.

THE SARAH GRAHAM KENAN LOAN FUND. A fund of $1,000 established March 7, 1932, by Mrs. Sarah G. Kenan, of Wilmington, North Carolina, to be awarded according to the designation of the donor.

THE MILO M. PENDLETON LOAN FUND. A fund of $1,000 established March 15, 1932, by Mrs. Katharine Pendleton Arrington as a memorial to her brother, Milo M. Pendleton, of the Pharmacy Class of 1902.

THE RICHMOND, VIRGINIA, ALUMNI ASSOCIATION LOAN FUND. A fund of $320 given in 1932 by the organization named above with the request that it be set so as to receive annual additions from the donors.

THE EDRINGTON SPENCER PENN AND CHARLES ASHBY PENN, JR., LOAN FUND. A fund of $1,000 established April 14, 1932, by Mrs. Charles Ashby Penn, of Reidsville, North Carolina.

THE GEORGE NEWBY TOMS LOAN FUND. A fund of $1,000 established May 19, 1932, by Mr. C. W. Toms, Class of 1889, of New York City, in memory of his son, the late George Newby Toms, Class of 1928.

THE MARGARET MCCALL CARMICHAEL LOAN FUND. On May 25, 1932, a fund of $1,000 was established by W. D. Carmichael, Class of 1897.

THE ANNIE LOUISE WATTS HILL LOAN FUND. A fund of $1,000 established by Mr. John Sprunt Hill, of Durham, North Carolina, on June 4, 1932, as a memorial to his wife.

THE GEORGE BASLEY HISS LOAN FUND. A fund of $10,000 established in 1932 by Mrs. Bertha T. Hiss, of Charlotte, North Carolina, in memory of her husband, George Basley Hiss.

THE CONSOLIDATED LOAN FUND

The Consolidated Fund includes over forty funds which have identical lending requirements. They are consolidated for accounting and investing purposes and participate in income, expense, and loss on an equity basis. The best terms possible are provided for those funds which make up the Consolidated Fund.

NATIONAL DEFENSE STUDENT LOAN FUND

The Congress of the U. S., through the National Defense Education Act of 1958, appropriated funds for student loans. These funds are distributed to participating institutions on a cooperative plan. Loans are made according to regulations prescribed by the Congress. The educational institutions are responsible for making and collecting the loans. Each borrower must be a student in need of financial assistance, and must be capable of maintaining a good scholastic standing.

CUBAN LOAN PROGRAM. Beginning in 1961, this University has participated in the Cuban Loan Program, for which basic terms and all funds are provided by the Congress of the United States in order to make loans especially available to Cuban refugee students who meet certain requirements. These loans now have terms roughly equivalent to those of the National Defense Student Loan Program.

THE HEALTH PROFESSIONS STUDENT LOAN PROGRAM. Beginning in 1964, the University has participated in this loan program sponsored by the Federal Government, but only for students in the School of Medicine. Funds appropriated by the Congress are distributed to participating institutions on a cooperative plan, and loans are made in accord with regulations prescribed by the Congress and the U. S. Department of Health, Education, and Welfare. The University is responsible for making and collecting the loans. Each borrower must be a student in need of financial assistance and must be capable of maintaining a good scholastic standing.

HONOR AND RECOGNITION SOCIETIES

ALPHA OMEGA ALPHA, national medical honor society, bases its membership on high academic standing, moral integrity, and promise of future contribution to the field of medicine.

ALPHA EPSILON DELTA, premedical and predental honor society, was founded at the University of Alabama in 1926. Its Beta of North Carolina Chapter was established here in 1936. Its object is to en-

courage excellence in scholarship and to promote cooperation and common interests among the premedical and predental students.

ALPHA PHI OMEGA, national campus service fraternity, was founded at Lafayette College in 1925. Its purpose is to bind together college men in the fellowship of the Scout Oath and Law, to develop friendship, and to promote service to humanity. The Rho Chapter was established here in 1930.

AMPHOTEROTHEN, an honorary organization of men and women was founded here in 1912 for the purpose of honoring students who excell in all areas of speaking and forensic activity. It became temporarily inactive in 1947 and was reactivated during the winter quarter of 1952.

ARNOLD AIR SOCIETY was founded in 1946 at the University of Cincinnati for the purpose of furthering interest in and knowledge of the Air Force among Air Force ROTC cadets. Selection is based on academic average and demonstrated leadership within the cadet corps. The Arnold Air Society is now a national organization located in 169 universities and colleges. The local unit was founded in 1951 under the guidance of Lt. Col. Jesse J. Moorhead, Professor of Air Science at that time.

BETA GAMMA SIGMA, national scholastic honor society for students in commerce and business administration, was founded in 1913 by the union of three local societies at the universities of Wisconsin, California, and Illinois. Its Alpha of North Carolina Chapter was established here in 1933. Undergraduate juniors and seniors, and graduate students, in the School of Business Administration who achieve sufficiently high scholastic standing become eligible for membership.

BETA PHI MU, international scholastic honorary fraternity in library science, was founded at the University of Illinois in 1948. Epsilon Chapter was established here in 1958. Eligibility for membership is based on high scholastic achievement in library science.

DELTA OMEGA SOCIETY, the national honorary organization to recognize scholastic achievement of graduate students in Schools of Public Health, is represented on the University of North Carolina campus by the Theta Chapter. Students from among the upper twenty-five per cent of the class with unusual attributes of leadership and promise are nominated although the number inducted into membership is limited to ten per cent of the graduate students receiving the Master of Public Health or other advanced degrees in public health.

DELTA PHI ALPHA, recognition society for students of German, was founded at Wofford College in 1929, its Beta Rho Chapter being established here in 1938. It aims to promote interest in the language, literature, and culture of German-speaking people.

DELTA SIGMA RHO, a member of the Association of College Honor Societies, was founded in Chicago in 1906, with this purpose: To encourage sincere and effective public speaking. This purpose is interpreted as giving the society three basic objectives: (1) to provide leadership in participation in public affairs by students in higher education; (2) to provide criteria for institutional excellence in forensic programs; and (3) to provide an agency through which student achievement in public speaking may be recognized and honored. The North Carolina Chapter was established in 1960.

GAMMA ALPHA LAMBDA was organized in 1961 as a local society which honors freshman women for high academic achievement.

GAMMA BETA PHI SOCIETY is a service-leadership organization for students in American colleges and universities. Membership is open to former members of Beta Clubs in high schools and to other qualified students upon invitation by the local chapter. The Beta of North Carolina Chapter was established here in May 1965.

KAPPA TAU ALPHA, national society dedicated to the recognition and promotion of scholarship in the field of journalism, founded at the University of Missouri in 1910, granted a charter to The University of North Carolina at Chapel Hill on May 17, 1955. The society elects approximately ten per cent of the journalism student body to membership. Eligibility is determined entirely on academic standing in journalism courses and in all other courses taken on the Chapel Hill campus.

ORDER OF THE COIF, honor society for men in schools of law, was founded at the University of Illinois in 1902. Its chapter here was established in 1928. The top ten per cent of the graduating class is elected to membership.

ORDER OF THE GOLDEN FLEECE, senior honor society for men, was founded here in 1903. It selects each year from the men in the junior class, or above, those considered to possess the highest qualifications in character, ability, achievement, and leadership.

ORDER OF THE GRAIL was founded here in 1920 as an honorary service organization. Each year sixteen outstanding rising junior and senior men are honored with membership, the number almost evenly divided between fraternity and non-fraternity men. Its purpose is to provide financial aid for needy and deserving students, and to serve the campus generally. Each year the Order sponsors the sale of the Official University Ring and the sale of the graduation invitations.

ORDER OF JANUS, founded in 1956, is a recognition society whose members are chosen by virtue of their outstanding contribution to men's residence hall life. The Order sponsors the annual blazer sale, the proceeds of which are applied to a special scholarship fund.

ORDER OF THE OLD WELL was founded here in 1949 for the purpose of recognizing and honoring campus service and accomplishment on a point basis. The Golden Fleece, the Valkyries, and the Grail select their honorees on an intangible appraisal basis; the Old Well honors those juniors and seniors, both men and women, who achieve at least a certain minimum number of points—all activities, such as scholarship, student government, athletics, forensics, publications, dramatics, music, being evaluated by a proper distribution of points.

PHI ALPHA THETA, national honor society for recognizing excellence in the study of history, was founded at the University of Arkansas in 1921. Eligibility for membership, both on the undergraduate and graduate levels, is based on superior scholastic achievement. The Delta Pi Chapter was established here in 1952.

PHI BETA KAPPA, national scholarship fraternity, was founded at The College of William and Mary in 1776. Alpha of North Carolina was established here in 1904. Juniors and seniors who meet the requirements in scholastic achievement and character are invited to become members.

PHI DELTA KAPPA is a national society for the recognition of outstanding undergraduate and graduate men in the field of professional education. The Beta Theta Chapter was established here in 1945. It promotes research, service, and leadership in education.

PHI ETA SIGMA, national freshman scholarship fraternity for men, was founded at the University of Illinois in 1923 to encourage and reward high scholastic attainment and thus promote good study habits early in college life. The chapter here was established in 1947. The freshman men who make at least half *A's* and the rest *B's* their first semester or their first two semesters are eligible for membership.

PHI MU ALPHA SINFONIA, national honorary music fraternity, was founded at the New England Conservatory in 1898 and now has 202 chapters. The Alpha Rho chapter at the University at Chapel Hill received its charter in 1928. Its purposes are to advance the cause of music in America, to foster the mutual welfare and brotherhood of students of music, to develop the truest fraternal spirit among its members, and to encourage loyalty to the Alma Mater. Membership is not limited to music students.

PI MU EPSILON, recognition society for students of mathematics, grew out of the Mathematics Club at Syracuse University. It was incorporated under the laws of New York in 1914. Its North Carolina Beta Chapter was established here in 1948. The purpose of the society is to promote interest in the study of undergraduate and graduate mathematics.

PI SIGMA ALPHA, a national honor society for students in political science, established a chapter in 1949. It was founded at the University of Texas in 1920. Eligibility for membership is based on high scholastic achievement in the subject.

RHO CHI was founded at the University of Michigan in 1922 to encourage high scholastic achievement and fellowship among students in pharmacy. Its Xi Chapter was established here in 1929. Students in the School of Pharmacy who qualify in scholarship, character, personality, and leadership are elected to membership.

SCABBARD AND BLADE, national military society, has as its qualifications for membership good scholarship, leadership, initiative, and character. The organization was founded at the University of Wisconsin in 1904. The chapter was established here in 1949.

SIGMA DELTA CHI, professional journalistic society, was founded at DePauw University in 1909. Its purpose is to associate journalists of talent, truth, and energy into a unit to advance the standard of the press. The University of North Carolina Chapter was established in 1958. Students who plan to enter the news side of journalism are eligible for membership.

SIGMA GAMMA EPSILON, national honor society for students in the earth sciences, was founded at the University of Kansas in 1915. High scholarship and active interest in one of these fields are requirements for membership. The Alpha Alpha Chapter of the fraternity was established here in 1931.

SIGMA THETA TAU, INC., the only National Honor Society of Nursing in the United States, and a member of the Association of College Honor Societies, has constituent chapters established in collegiate schools of nursing whose programs are accredited by the National League of Nursing.

Sigma Theta Tau, Inc., is a professional rather than a social society. The purposes of the society are to promote high professional and individual development and to advance the profession of nursing. Its members are honored for their superior scholarship, qualities of leadership, and capacity for personal growth.

Students who have completed one-half of the required curriculum and who have demonstrated outstanding ability in nursing may be considered for membership. Alpha Alpha Chapter was established at the University of North Carolina, October 5, 1962.

SIGMA XI, founded at Cornell University in 1886 for the purpose of encouraging original investigation in science, has a chapter here, established in 1920. Membership is contingent upon evidence of excellence in research in one of the sciences. Advanced undergraduates and graduates who show promise in scientific research may be elected to

ıssociate membership, to be promoted to full membership later if leemed worthy.

THE VALKYRIES, senior honorary organization for women, recogıizes and honors women students outstanding in character, scholarship, leadership, and service, the number selected each year not exceeding two per cent of the women enrolled. It was established here in 1941.

MEDALS AND PRIZES

THE MANGUM MEDAL IN ORATORY. (Established in 1878.) A gold nedal founded by the Misses Martha ("Pattie") Person and Mary Sutherland Mangum, late of Orange County, in memory of their father, Willie Person Mangum, Class of 1815, is continued by the family of one of his descendants, Mr. Willie P. Mangum Turner of Winston-Salem, North Carolina, Class of 1900. This medal is awarded to that member of the senior class who, in the opinion of a group of judges, gives the most excellent oration at an annual oratorical contest.

THE EBEN ALEXANDER PRIZE IN GREEK. (Established in 1887.) A prize of $100.00 is offered annually to that undergraduate who shall present the best rendering into English of selected passages of Greek not previously read.

THE ARCHIBALD HENDERSON PRIZE IN MATHEMATICS, formerly THE WILLIAM CAIN PRIZE. (Established in 1908.) A gold medal is given annually to the undergraduate student judged by the Department of Mathematics to have demonstrated a high order of mathematical ability and to have shown the greatest promise of originality in the field.

THE MILDRED WILLIAMS BUCHAN PRIZE. (Established in 1920.) A fund of $1,000 was given by Mr. Edward Robertson Buchan in memory of his wife. The income of this fund is to provide a prize or to help support a philosophical lecture in the Department of Philosophy.

THE PATTERSON MEDAL. (Established in 1924.) A gold medal is offered annually by Dr. Joseph F. Patterson in memory of his brother, John Durant Patterson. This medal is awarded for general excellence in athletics to a student selected by a special committee.

THE CHI OMEGA PRIZE IN SOCIOLOGY. (Established in 1927.) A prize of $25.00 is awarded by the local chapter of the Chi Omega fraternity to the graduating woman student majoring in sociology who, in the judgment of a committee of the Department of Sociology, best exemplifies high scholarship, leadership, and promise of productive citizenship.

THE E. CARRINGTON SMITH AWARDS. (Established in 1928.) A trophy is presented annually in football and in basketball to the most valuable player in each sport possessing qualities of leadership, scholar-

ship, and sportsmanship. The recipient is elected by the squad members in the respective sports.

THE ALGERNON SYDNEY SULLIVAN AWARD. (Established in 1928.) This award is bestowed annually upon one man and one woman of the graduating class who have best demonstrated an attitude of unselfish interest in the welfare of their fellow man. The award shall not be based upon scholastic, athletic, or other collegiate attainment.

THE DELTA SIGMA PI AWARD. (Established in 1931.) This award is given annually to the senior in the School of Business Administration who has the highest academic average in Business Administration.

THE ROLAND HOLT CUP IN PLAYWRITING. (Established in 1936 by Constance MacKay Holt, in memory of her husband.) This award is made periodically by the Department of Dramatic Art, for excellence in playwriting.

THE BUXTON WILLIAMS HUNTER MEDAL IN PHARMACY. (Established in 1937.) A gold medal is offered annually by Mr. D. R. Davis of Williamston, in honor of his uncle, Mr. Buxton Williams Hunter, of New Bern, and is awarded to that student who has shown outstanding qualities of leadership and scholarship and who has done outstanding work in the Student Branch of the N.C.P.A.

THE DICK JAMERSON SWIMMING AWARD. (Established in 1940.) This award is made annually to the freshman and senior who demonstrate excellence in scholarship, leadership, swimming, and team morale.

THE JOHN JOHNSTON PARKER, JR., MEDAL FOR UNIQUE LEADERSHIP IN STUDENT GOVERNMENT. (Established in 1941.) This medal is given annually by the late Judge and Mrs. John J. Parker in memory of their son, John Johnston Parker, Jr., Class of 1937, who rendered distinguished and sacrificial leadership as President of the Student Council in one of the critical years in the history of Student Government. This medal is awarded by a special committee appointed by the President of the University to that member of the graduating class who has demonstrated most clearly the highest qualities of leadership in perpetuating the spirit of honor and the process of student self-government.

THE PHI BETA KAPPA AWARD. (Established in 1941.) An award amounting to $150 is given annually by the local chapter of Phi Beta Kappa to that member of the rising junior class (eligible for self-help work) who has made the highest scholastic average during his freshman and sophomore years.

THE ERNEST H. ABERNETHY PRIZE IN STUDENT PUBLICATION WORK. (Established in 1941.) Mr. Ernest H. Abernethy, Class of 1922, of

Atlanta, Georgia, established this annual award of a plaque and $50.00 in cash, which is to be presented to the student who is adjudged by a committee to have done the most distinctive work during the current year in the field of student publications.

THE FOY ROBERSON, JR., MEDAL. A gold medal is offered by the late Dr. Foy Roberson and Mrs. Roberson in memory of their son, Foy, Jr., Class of 1940, varsity basketball 1939 and 1940; Second Lieutenant, Army Air Corps; killed in collision at sea, December, 1941. It is awarded annually for the chief contribution to team morale in basketball.

THE JOSEPHUS DANIELS SCHOLARSHIP MEDAL. (Established in 1941.) This gift from the family of the Honorable Josephus Daniels is to be invested and the income used to provide the Josephus Daniels Scholarship Medal annually to the graduating Midshipman of the Naval ROTC Unit at Chapel Hill for attaining the highest average in academic courses of study at the University.

THE FRANCIS P. VENABLE AWARD. (This was originally the Alpha Chi Sigma Prize in Chemistry, established in 1942.) This medal is given annually by the local chapter of Alpha Chi Sigma Fraternity to the undergraduate student of chemistry selected by the faculty as best exemplifying high scholarship, leadership, and personality.

W. A. TARR AWARD. (Established in 1948.) The Sigma Gamma Epsilon Honor Society periodically assigns this award to the person adjudged to be the outstanding graduating senior in the earth sciences.

THE WILLIAM CHAMBERS COKER AWARD IN SCIENCE. (Established in 1948.) A sum of $50.00 is awarded annually by the Elisha Mitchell Scientific Society to the graduate student whose thesis or dissertation shall be adjudged the best of those submitted for a graduate degree in the Science Division.

THE ALPHA KAPPA PSI SCHOLARSHIP KEY. (Established in 1949.) Alpha Tau Chapter of Alpha Kappa Psi, a professional fraternity in commerce, awards annually the Alpha Kappa Psi scholarship key to the male senior student pursuing a degree in the School of Business Administration who has attained the highest scholastic average for three and a half years of collegiate work in this University.

THE E. J. EVANS TRACK AWARD. (Established in 1949.) A permanent gold cup honoring the outstanding senior and freshman track athlete has been established by Mr. E. J. Evans of Durham, North Carolina, and is kept in the University's trophy case. A special plaque is given each year to the student winning this honor.

THE JOHN BISHOP MARKSMANSHIP MEDAL. (Established in 1952.) This medal was established as a Revolutionary Memorial in honor of John Bishop (1740-1815), from Halifax County, North Carolina, who

served in the Continental Army. It has been made available by a gift from one of his direct descendants of the fifth generation, Mr. Charles B. Bishop, Class of 1925, of New York City, and is to be given annually to the Naval ROTC Midshipman of the Sophomore Class for efficiency in competitive marksmanship.

THE BENJAMIN SOLOMON MEMORIAL AWARD. (Established in 1953.) A trophy is offered annually by Mr. and Mrs. Sam Planer of Gastonia, North Carolina, to the member of the varsity wrestling team who has best demonstrated the qualities of character and personality which are developed by his participation in wrestling.

THE JANE CRAIGE GRAY MEMORIAL AWARD. (Established in 1954.) This award is to be presented annually by Beta Chi Chapter of Kappa Delta, recognizing that woman of the junior class who has proved herself outstanding in character, scholarship, and leadership. The award was established in memory of Jane Craige Gray.

THE IRENE F. LEE CUP AWARD. (Established in 1955.) The late Mrs. Irene F. Lee, of Chapel Hill, North Carolina, who served as hostess and counselor in the Cornelia Phillips Spencer Hall from 1925 to 1948, established this annual award to honor that senior woman adjudged outstanding in character, leadership, and scholarship.

THE AMERICAN LEGION MEDAL. (Established in 1955.) This award is presented to the graduating Naval ROTC Midshipman who has most clearly demonstrated the qualities of devotion to country and unselfish service which exemplify military leadership.

SONS OF THE AMERICAN REVOLUTION MEDAL. (Established in 1955.) This medal is presented to the graduating Naval ROTC Midshipman who has demonstrated the highest qualities of military excellence and leadership.

THE PROFESSOR OF NAVAL SCIENCE AWARD. (Established in 1958.) This award is a cup and is presented annually to the Naval ROTC Midshipman who has made an exceptional contribution to NROTC Unit Activities.

THE MARINE CORPS ASSOCIATION AWARD. This award, consisting of a certificate and membership, is presented annually to the graduating Marine Option Midshipman who made the highest combined leadership and academic achievement at Officers' Candidate School, Quantico, Virginia, during the previous summer.

THE UNITED STATES NAVAL INSTITUTE PROCEEDINGS AWARDS. These two awards consisting of certificates and memberships, are presented annually to the graduating NROTC Midshipman and the graduating

Contract Student who demonstrate exceptional interest in the professional and scientific knowledge of the Navy.

MRS. DOROTHY O'SULLIVAN BASKETBALL AWARD. (Established in 1955.) This trophy is awarded at the conclusion of each basketball schedule to the regular varsity basketball player making the highest percentage of free throws during the season.

THE W. T. BEATY LIFE INSURANCE AWARD IN BUSINESS ADMINISTRATION. (Established in 1955.) The W. T. Beaty Insurance Award of $75.00 is given each year to the most outstanding senior planning a career in insurance.

THE GEORGE LIVAS AWARD. (Established in 1956 by friends of the late George T. Livas.) This is a monetary award presented each year to the member of the senior class of the School of Nursing who meets the specified qualifications of scholarship, leadership, and nursing excellence. The recipient is chosen by the graduating class of the School of Nursing and approved by the Dean of the School of Nursing, or her delegate.

THE JEFF THOMAS TROPHY. (Established in 1956.) This trophy was established in honor of Mr. Jeff Thomas, a Chapel Hill businessman and loyal supporter of Carolina athletics, by friends and former Tar Heel athletes. It is awarded to a senior athlete who has demonstrated outstanding sportsmanship and athletic ability.

THE WILLIAM F. PROUTY MEMORIAL AWARD. (Established in 1956.) The award was established by Dr. Prouty's three sons, William W., Frederick M., and Chilton E. Prouty, in honor of their father. It is awarded annually to the senior member of the varsity football team selected by a special committee as being most outstanding in scholarship, athletic ability, character, extracurricular participation and general all-round campus citizenship.

THE S. H. BASNIGHT BASEBALL AWARD. (Established in 1957.) A plaque is presented annually to the senior member of the varsity baseball team judged to have made the greatest contribution to the success of the team during the current season. The award was established by Dr. S. H. Basnight of Chapel Hill, North Carolina.

THE CAROLINA WOMEN'S COUNCIL AWARD. (Established in 1959.) A silver tray is presented annually by the Carolina Women's Council to a senior woman who has served her residence hall and the University with diligence, faithfulness, and loyalty, and has proved herself to be outstanding in character, personality, leadership, and scholarship.

NAVY LEAGUE AWARD. (Established in 1958.) An engraved Officer's sword is presented to the Midshipman of the Naval ROTC graduating class attaining the highest four-year military aptitude average.

JAMES TATUM MEMORIAL AWARD. (Established in 1959 by action of the University of North Carolina Student Legislature.) This award was established to give recognition to the athlete that has best exemplified the qualities desired in an athlete by James Tatum. The award is open to all Carolina students and is presented annually by the President of the Student Body at the last yearly session of the Student Legislature. The selection committee consists of the President of the Student Body, the President of the Student Athletic Council, the Director of Athletics and the Dean of Student Affairs.

FRENCH GOVERNMENT AWARD. (Established in 1959.) Two awards of $100 are given by the French Government through the Department of Romance Languages each year to two seniors who have done outstanding work in French.

THE DANIEL CALVIN JOHNSON MEMORIAL AWARD IN PHYSICS. (Established in 1960.) This award, established by Mrs. Mildred Johnson in honor of her husband, Daniel C. Johnson, a former graduate of the department, is awarded annually to the physics major who is judged by the faculty to be the most outstanding student of the junior class.

AMERICAN INSTITUTE OF PLANNERS STUDENT AWARD. (Established in 1961.) Upon recommendation of the faculty of the Department of City and Regional Planning, in recognition of outstanding achievement, a citation is awarded each year by the American Institute of Planners to a graduate student in the Department.

HAMILTON WATCH AWARD. (Established in 1961.) The Hamilton Watch Company annually presents a valuable watch to a Bachelor of Science candidate for excellence in the study of the social sciences and humanities.

CLEMENS SOMMER PRIZE. (Established in 1962.) From a fund raised in memory of the late Dr. Clemens Sommer by his friends, colleagues, and students an annual prize of $50.00 is offered for the best paper in the field of art history written by an undergraduate.

THE ALBERT SUSKIN PRIZE IN LATIN. (Established in 1965.) A prize of $100.00 is offered annually to the undergraduate who shows the best ability to understand Latin poetry and to translate selected passages at sight.

THE EDUCATIONAL FOUNDATION SENIOR ATHLETE AWARDS. These awards are given annually to a senior in each varsity sport who is selected by the head coach of that sport to be the best senior athlete on the squad for the current season. Appropriately engraved wrist watches are used for the awards.

ATLANTIC COAST CONFERENCE SENIOR SCHOLARSHIP AWARD. This award in the form of a plaque is presented annually to a senior of each member school for excellence in scholarship and athletics.

THE AIR FORCE ASSOCIATION AWARD. A silver medal donated by the United States Air Force Association is presented annually to a senior cadet whose performance has indicated outstanding leadership characteristics and excellence in Air Science Academics.

THE CHICAGO TRIBUNE ROTC MEDALS. These awards consist of two gold and two silver medals. They are presented annually to four outstanding cadets, with selection not being confined particularly to Air Science years, on the basis of military achievement; scholastic achievement; moral character; and personal desire for an Air Force commission. These awards are donated by *The Chicago Tribune.*

THE GENERAL DYNAMICS AWARD. (Air Force and Naval ROTC.) The awards consist of wall plaques bearing a silhouette of the latest aircraft built for the Air Force and nuclear powered submarine built for the Navy by the General Dynamics Corporation. The Air Force award is presented to the sophomore cadet displaying outstanding leadership potential and possessing outstanding personal characteristics; including a positive attitude, initiative, judgment, self confidence, and respect for military customs, with consideration of his scholastic achievements. The Navy award is presented to the Midshipman attaining the highest standing in proficiency during the aviation phase of annual summer training.

NROTC FLIGHT INDOCTRINATION PROGRAM AWARD. A wall plaque and certificate is presented annually to the Midshipman who attains the highest combined flight and ground school grades in the U. N. C. NROTC Flight Indoctrination Program.

RESERVE OFFICERS' ASSOCIATION MEDALS AND CERTIFICATES. The two silver medals and certificates are presented annually to the Junior Midshipman and Cadet displaying the outstanding characteristics of leadership while attaining the highest achievements in Naval Science and Aerospace Studies during the applicable academic year. Certificates are also presented to the outstanding senior and sophomore Cadets and to the outstanding senior, sophomore and freshman Midshipman for attaining the highest combined Naval Science/Aerospace Studies grade and aptitude/efficiency rating.

AIR FORCE TIMES AWARD. This award consists of a certificate of merit and a one-year subscription to the *Air Force Times* newspaper. It is presented annually to the senior cadet who has distinguished himself by materially presenting contributions for attaining public attention to his cadet group. The award is donated by the *Air Force Times.*

LEGION OF VALOR BRONZE CROSS OF ACHIEVEMENT AWARD. The Legion of Valor awards the bronze cross for achievement in order to encourage cadets to achieve excellence in both military and academic objects, and to stimulate leadership development. The bronze cross is

presented annually to a senior cadet who excels in his respective Summer Training Unit, is in the upper one-fourth of his class scholastically, and possesses outstanding leadership qualities. This award is presented to one cadet in our Air Force ROTC area; therefore, only one cadet from several universities is selected for this award.

THE PROFESSOR OF AIR SCIENCE LEADERSHIP AWARD. This award consists of a gold plaque with a mahogany base and is presented annually to the senior cadet possessing the most outstanding characteristics of leadership in his class.

THE PROFESSOR OF AIR SCIENCE SCHOLARSHIP AWARD. This award is presented annually to the senior cadet possessing the highest scholastic average in his class. The award consists of a gold plaque with a mahogany base.

THE WILLIAM DEB. MACNIDER AWARD. (Established in 1950.) A sophomore medical student is selected by his classmates because he possesses various intangible traits of good character which were typified by Dr. "Billy" MacNider during his fifty-one years as teacher and physician at The University of North Carolina at Chapel Hill. A plaque hangs in the Medical Library and is inscribed each year with the name of the recipient.

THE ISAAC HALL MANNING AWARD. (Established in 1954.) This annual award is given to the member of the graduating class of the School of Medicine whom the Dean and the Medical Faculty may deem especially worthy of honor. A Trust Fund was established by an anonymous donor to honor Dr. Isaac Hall Manning, formerly Professor of Physiology and for many years Dean of the School; his service in the School was continuous from 1905 to 1936.

THE C. V. MOSBY COMPANY BOOK AWARDS. A current medical book is presented annually by the Mosby Publishing Company to five outstanding students in the School of Medicine: two members of the senior class and one member each of the freshman, sophomore, and junior classes.

THE ROCHE AWARD. A scroll and a gold wrist watch engraved with the name of the award and the recipient is presented annually by The Roche Laboratories, Division of Hoffman-La Roche Inc. to the senior medical student judged by a medical faculty committee to be an "outstanding student" with the "qualities most desirable in a physician."

THE DEBORAH CUSHING LEARY AWARD. (Established in 1958.) This award was established in honor of the late Dr. Deborah Cushing Leary Associate Professor of Obstetrics and Gynecology at The University o

North Carolina School of Medicine for the period 1952-1957. The award is made to the medical student whose paper is judged by a medical faculty committee to be the best paper presented from the Medical School Student Research Paper Program. Two additional runners-up awards are also given in this program.

THE PROFESSOR AWARD. (Established by the Medical School Senior Class of 1956.) This award is presented annually by the graduating class of The University of North Carolina School of Medicine to that faculty member who by his willingness, understanding, and ability has contributed most to their medical education.

THE HENRY C. FORDHAM AWARD. (Established by the Medical School Senior Class of 1958.) In honor of the late Dr. Henry C. Fordham, Resident in Medicine at the North Carolina Memorial Hospital, 1957-1958, the seniors in medicine present this award annually to a member of the house staff "in recognition of his qualities of patience, humility, and devotion to medicine as were possessed by Dr. Fordham."

THE INTERN AWARD. (Established in 1963.) A book in his medical specialty is presented annually by the junior class of the School of Medicine to the intern who had been most helpful to their class.

THE JAMES BELL BULLITT AWARD. (Established in 1962.) In honor of Dr. Bullitt, formerly Professor of Pathology and member of the faculty of the School of Medicine from 1913 to 1947, and consistent with the varied contributions of Dr. Bullitt to the School, the award bearing his name is flexible in purpose and provides an opportunity for recognizing unusual achievements or contributions by a member of the senior class of the School of Medicine.

THE HEUSNER PUPIL AWARD. (Established in 1964.) Given by friends of the late Dr. A. Price Heusner, who was Professor of Surgery from 1952-1956 and then Professor of Anatomy until his death in 1963, this award is made to a medical student, "a member of the rising fourth-year class who shall show a great capacity to grasp the principles of science, to heal the sick, to comfort the troubled, to be humble before his God."

THE AMERICAN MEDICAL WOMEN'S ASSOCIATION SCHOLASTIC AWARDS. The awards consist of $100 in cash and a citation for the woman medical student graduating in first place and an honorable mention citation to those women graduating in the upper ten per cent of their class.

THE BASIC SCIENCE TEACHING AWARD. (Established in 1965.) The second-year class of the School of Medicine gives this award to honor a faculty member from the medical basic sciences who has contributed in a particularly effective and devoted manner to their education.

THE MERCK AWARDS. Manuals engraved with the names of the recipients are presented annually by Merck and Company to two medical students judged by a faculty committee to be deserving of recognition.

THE LANGE AWARDS. (Established in 1965.) Awards for excellence, gift certificates for four publications, are given by Lange Medical Publications to honor two outstanding graduating medical students selected by a faculty committee.

THE GEORGE C. THRASHER, JR., AWARD. (Established in 1965.) The Department of Psychiatry gives this award annually to a member of the graduating class of the School of Medicine who shows most outstanding performance and ability in Psychiatry.

THE NATIONAL FOUNDATION MERIT AWARD. An award of $250 is given by the National Foundation to the University of North Carolina School of Medicine student who is judged to submit the best thesis, or equivalent, on any subject relating to "Birth Defects."

A supplement to this Issue containing the Degrees Awarded for the period August, 1966, through June, 1967, will be published separately and may be obtained upon request from the Office of the Director of Records and Registration.

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IACK JERNIGAN, Harnett	THOMAS B. UPCHURCH, JR., Hoke
ERBERT JOHNSON, Harnett	C. M. VANSTORY, JR., Guilford

HILL YARBOROUGH, Franklin

Class of April 1, 1969

VADE BARBER, Chatham	R. WALKER MARTIN, Davidson
RAHAM W. BELL, Cumberland	C. KNOX MASSEY, Durham
ICTOR S. BRYANT, Durham	REID A. MAYNARD, Alamance
ENRY A. FOSCUE, Guilford	WILLIAM C. MEDFORD, Haywood
UTHER HAMILTON, Carteret	WILLIAM G. REID, Surry
. C. HARRIS, JR., Wake	[4]MRS. S. L. RODENBOUGH, Stokes
. A. JOHNSON, Harnett	A. ALEX SHUFORD, Catawba
OBERT B. JORDAN III, Montgomery	B. ATWOOD SKINNER, Wilson
RS. J. B. KITTRELL, Pitt	L. H. SWINDELL, Beaufort
HANES LASSITER, Mecklenburg	BEN C. TROTTER, Rockingham
HN LASSITER, Johnston	OSCAR C. VATZ, Cumberland
HN VAN LINDLEY, Guilford	J. SHELTON WICKER, Lee

FRED L. WILSON, Cabarrus

1. Died August 27, 1964.
2. Died April 11, 1964.
3. Died January 11, 1966.
4. Died January 8, 1967.

Class of April 1, 1971

WYATT R. AYDLETT, Pasquotank
IRWIN BELK, Mecklenburg
MRS. JOHN G. BURGWYN, Northampton
SAM N. CLARK, JR., Edgecombe
T. J. COLLIER, Pamlico
ARCHIE K. DAVIS, Forsyth
JAMES C. FARTHING, Caldwell
DOROTHY GLENN, Gaston
GEORGE WATTS HILL, Durham
MRS. J. HENRY HILL, JR., Catawba
THOMAS H. LEATH, Richmond
W. J. LUPTON, Hyde
THOMAS MCKNIGHT, Iredell
D. L. MCMICHAEL, Rockingham
R. D. MCMILLAN, JR., Robeson
RUDOLPH I. MINTZ, New Hanover
THOMAS O. MOORE, Forsyth
ASHLEY M. MURPHY, Pender
DOUGLAS M. ROBINSON, Madison
R. GLENN STOVALL, Person
DAVID T. TAYLOE, Beaufort
CARL V. VENTERS, Onslow
HENRY WEIL, Wayne
[5]MACON M. WILLIAMS, Caldwell
GEORGE M. WOOD, Camden

Class of April 1, 1973

FRED F. BAHNSON, JR., Forsyth
LENOX G. COOPER, New Hanover
J. M. COUNCIL, JR., Columbus
W. LUNSFORD CREW, Halifax
E. M. FENNELL, Catawba
MRS. GEORGE A. FERGUSON, Guilford
DR. AMOS JOHNSON, Sampson
MRS. ALBERT H. LATHROP, Buncombe
LARRY I. MOORE, Wilson
WILLIAM KREISLER NEAL, Halifax
ARTHUR I. PARK, Granville
JOHN AARON PREVOST, Haywood
MRS. L. RICHARDSON PREYER, Guilford
ADDISON H. REESE, Mecklenburg
T. L. RICHIE, McDowell
H. L. RIDDLE, JR., Burke
ROY ROWE, Pender
J. BRANTLEY SPEIGHT, Pitt
JOHN P. STEDMAN, Robeson
C. LACY TATE, Columbus
W. FRANK TAYLOR, Wayne
MRS. STEWART WARREN, Sampson
CAMERON S. WEEKS, Edgecombe
THOMAS J. WHITE, Lenoir
MRS. GEORGE D. WILSON, Cumberland

Executive Committee

GOVERNOR DAN K. MOORE, *Chairman*
ARCH T. ALLEN, *Secretary*
MISS BILLIE CURTIS, *Assistant Secretary*

Class of 1968: GEORGE WATTS HILL, RUDOLPH I. MINTZ, THOMAS B. UPCHURCH, JR.
Class of 1970: ARCHIE K. DAVIS, J. SHELTON WICKER, W. FRANK TAYLOR
Class of 1972: WADE BARBER, G. N. NOBLE, REID A. MAYNARD, VICTOR S. BRYANT, MRS. JOHN G. BURGWYN, MRS. ALBERT H. LATHROP

5. Resigned November 26, 1966.

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

ADMINISTRATIVE OFFICERS

JOSEPH CARLYLE SITTERSON, Ph.D., *Chancellor*

CLAIBORNE STRIBLING JONES, Ph.D., *Assistant to the Chancellor*

CHARLES PERRY ERICKSON, S.B. in Civ. Eng'g., *Director of Athletics*

C. HUGH HOLMAN, Ph.D., *Provost*

JOHN BRYANT CHASE, JR., Ed.D., *Assistant to the Provost*

JOHN CHARLES MORROW III, Ph.D., *Dean, College of Arts and Sciences*

FRANK MARION DUFFEY, Ph.D., *Associate Dean, College of Arts and Sciences*

GEORGE EDWARD SHEPARD, Ed.D., *Associate Dean, General College*

GEORGE RUHLE HOLCOMB, Ph.D., *Dean for Research Administration*

MAURICE WENTWORTH LEE, Ph.D., *Dean, School of Business Administration*

NORTON LEWIS BEACH, Ed.D., *Dean, School of Education*

WAYNE ALLEN DANIELSON, Ph.D., *Dean, School of Journalism*

JAMES DICKSON PHILLIPS, JR., J.D., *Dean, School of Law*

MARGARET ELLEN KALP, M.A. in L.S., *Acting Dean, School of Library Science*

C. WILSON ANDERSON, LL.B., *Dean, School of Social Work*

CHARLES CECIL BERNARD, M.A., *Director of Admissions*

HARRY ELLERBE DAVIS, D.F.A., *Director, Carolina Playmakers*

CHARLES FREMONT MILNER, A.M. in Ed., *Director, Extension Division*

JOHN LASSITER SANDERS, J.D., *Director, Institute of Government*

ARTHUR NORMAN TUTTLE, JR., M.F.A., *Planning Officer*

RAYMOND E. STRONG, A.B., *Director of Records and Registration*

JAMES REUBEN GASKIN, Ph.D., *Director, Summer Session*

LAMBERT DAVIS, M.A., *Director of The University of North Carolina Press*

JOHN E. YOUNG, M.A., *Director of WUNC-Television*

JERROLD ORNE, Ph.D., *University Librarian*

C. ARDEN MILLER, M.D., *Vice Chancellor, Health Sciences*

JAMES WYATT BAWDEN, Ph.D., *Dean, School of Dentistry*

ISAAC MONTROSE TAYLOR, M.D., *Dean, School of Medicine*

WILLIAM LENTZ IVEY, M.S., *Director of North Carolina Memorial Hospital*

ELIZABETH LOUANNA KEMBLE, Ed.D., *Dean, School of Nursing*

GEORGE PHILLIP HAGER, Ph.D., *Dean, School of Pharmacy*

WILLIAM FRED MAYES, M.P.H., *Dean, School of Public Health*

MYRL LUA-FRANCES EBERT, B.S. in L.S., *Chief Librarian of Division of Health Affairs Library*

JAMES CARLTON INGRAM, Ph.D., *Dean, Graduate School*

EARLE WALLACE, Ph.D., *Associate Dean, Graduate School*

SALLIE DENTON COE, *Director of Graduate Admissions*

EVERETT D. PALMATIER, Ph.D., *Vice Chancellor, Advanced Studies*

HARVEY L. SMITH, Ph.D., *Director, Center for Community Research*

HALBERT BENEFIEL ROBINSON, Ph.D., *Acting Director, Child Development Center*

JAMES WILLIAM HANSON, M.A., *Director, Computation Center*

DANIEL ALEXANDER OKUN, Sc.D., *Director, Institute of Environmental Science*

ALPHONSE F. CHESTNUT, Ph.D., *Director, Institute of Marine Sciences*

RICHARD LEE SIMPSON, Ph.D., *Director, Institute for Research in Social Science*

FRANCIS STUART CHAPIN, JR., M.C.P., *Director, Center for Urban Studies*

WAYNE A. BOWERS, Ph.D., *Acting Director, Materials Research Program*

MOYE WICKS FREYMANN, Ph.D., *Director of Population Studies Program*

CORNELIUS OLIVER CATHEY, Ph.D., *Dean of Student Affairs*
ALMONTE CHARLES HOWELL, Ph.D., *Adviser to Foreign Students*
ANNE ELLEN QUEEN, B.D., *Chairman, YMCA-YWCA*
WILLIAM GROVES LONG, B.D., *Dean of Men*
KATHERINE KENNEDY CARMICHAEL, Ph.D., *Dean of Women*
HOWARD DOUGLAS HENRY, B.B.A., *Director of Graham Memorial Student Union*
WILLIAM MONROE GEER, M.A., *Director of Student Aid*
EDWARD M. HEDGPETH, M.D., *Director of Student Health Service*
JAMES E. WADSWORTH, M.Ed., *Director of Student Housing*
JOE MORGAN GALLOWAY, B.S., *Director of University Placement Service*
JAMES WILLIAM LITTLE, Ph.D., *Director of University Testing Service*

JAMES ALLEN WILLIAMS, LL.B., *Acting Business Manager*
VICTOR PRATT BOWLES, B.S.Comm., *Director of Accounting and Budget*
ALLEN STARRETT WATERS, M.C.E., *Director of Construction and Engineering*
GEORGE WILLARD PRILLAMAN, B.S., *Director of Food Services*
ANTHONY FRANCIS JENZANO, *Director of the Morehead Planetarium*
FRED BLISS HASKELL, A.B., *Director of Personnel*
WALTER W. HAMILTON, B.S. in Eng'g., *Director of Plant Operations*
ROBERT L. HARDISON, B.S. in Chem., *Director of Purchases and Stores*
GREY CULBRETH, *Director of Utilities*
WILLIAM R. INMAN, B.A., *Internal Auditor*
A. CARL MOSER, B.S.H.A., *Manager of Carolina Inn*
THOMAS ANZIN SHETLEY, B.S. Bus. Admin., *Manager, Campus Retail Stores*
FRANCIS B. DE FRIESS, B.S., *Radiation Safety Officer*
EVERETT HAMPTON, M.A., *University Loan Officer*
MARVIN E. WOODARD, B.S.Comm., *University Cashier*

CHARLES MILTON SHAFFER, S.B.Comm., *Director of Developmental Affairs*
JOSEPH MARYON SAUNDERS, A.M., *Alumni Secretary*
WILLIAM THOMAS BOST, JR., A.B., *Director of Alumni Annual Giving*
ALFRED GUY IVEY, *Director of University News Bureau*

OFFICERS OF THE FACULTY

[1]CORYDON PERRY SPRUILL, A.B., B.Litt., *Chairman of the Faculty*
[1a]FREDERIC NEILL CLEAVELAND, Ph.D., *Chairman of the Faculty*
CLIFFORD PIERSON LYONS, Ph.D., *Secretary of the Faculty*

THE FACULTY COUNCIL

Ex Officio Members

President: WILLIAM CLYDE FRIDAY, B.S., L.L.B., L.L.D.
Vice President—Academic Affairs: WILLIAM S. WELLS,[2] Ph.D.
Vice President—University Relations: FRED H. WEAVER, A.M.
Vice President—Institutional Studies: ARNOLD K. KING, Ph.D.
Vice President—University Public Service Programs: CHARLES EDWIN BISHOP, Ph.D.
Chancellor: J. CARLYLE SITTERSON, Ph.D.
Provost: C. HUGH HOLMAN,[3] Ph.D.

1. Term ended December 31, 1966.
1a. Effective January 1, 1967.
2. Effective September 1, 1966.
2a. Effective May 1, 1966.
3. Effective July 1, 1966.

Vice Chancellor—Health Sciences: C. ARDEN MILLER,[4] M.D.
Vice Chancellor—Advanced Studies and Research: EVERETT D. PALMATIER, Ph.D.
Assistant to the Chancellor: CLAIBORNE S. JONES, Ph.D.
Acting Business Manager: JAMES A. WILLIAMS[5]
Dean of Student Affairs: C. O. CATHEY, Ph.D.
Chairman of the Faculty: CORYDON P. SPRUILL,[6] A.B., B.Litt.
Chairman of the Faculty: FRED N. CLEAVELAND,[7] Ph.D.
Secretary of the Faculty: A. C. HOWELL,[8] Ph.D.
Acting Secretary of the Faculty: CLIFFORD P. LYONS,[9] Ph.D.
Dean, College of Arts and Sciences: J. C. MORROW,[10] Ph.D.
Acting Dean, College of Arts and Sciences: FRANK M. DUFFEY,[11] Ph.D.
Dean, Graduate School: JAMES C. INGRAM,[12] Ph.D.
Dean, Research Administration: GEORGE R. HOLCOMB, Ph.D.
Dean, General College: J. C. MORROW,[13] Ph.D.
Acting Dean, General College: FRANK M. DUFFEY,[14] Ph.D.
Dean, School of Business Administration: MAURICE W. LEE, Ph.D.
Acting Dean, School of Education: JOHN OTTS,[15] Ph.D.
Dean, School of Education: NORTON L. BEACH,[16] B.B.A., Ed.D.
Dean, School of Journalism: WAYNE A. DANIELSON, Ph.D.
Dean, School of Law: J. D. PHILLIPS, JR., B.S., J.D.
Acting Dean, School of Library Science: MARGARET E. KALP, B.A., M.A. in L.S.
Dean, School of Social Work: CARL W. ANDERSON,[17] D.S.W., LL.B.
Acting Dean, School of Social Work: ALAN KEITH-LUCAS,[18] Ph.D.
Dean, School of Dentistry: J. C. BRAUER,[19] A.B., M.Sc., D.D.S.
Dean, School of Dentistry: JAMES W. BAWDEN,[20] D.D.S., M.S., Ph.D.
Dean, School of Medicine: ISAAC M. TAYLOR, A.B., M.D.
Dean, School of Nursing: ELIZABETH L. KEMBLE, Ed.D.
Dean, School of Pharmacy: GEORGE P. HAGER, Ph.D.
Dean, School of Public Health: W. FRED MAYES, B.S., M.D., M.P.H.
Chairman, Division of Fine Arts: JOSEPH C. SLOANE, Ph.D.
Chairman, Division of Humanities: JACQUES HARDRÉ, Ph.D.
Chairman, Division of Natural Sciences: H. E. LEHMAN,[21] Ph.D.
Chairman, Division of Natural Sciences: EUGEN MERZBACHER,[22] Ph.D.
Chairman, Division of Social Sciences: FRANK W. KLINGBERG, Ph.D.
Director of Admissions: CHARLES C. BERNARD
Director of Extension: CHARLES F. MILNER
Director of Libraries: JERROLD ORNE
Director of Records and Registration: RAYMOND E. STRONG
Director of Summer Session: JAMES R. GASKIN
Director of University Health Service: E. McG. HEDGPETH
Director of University Press: LAMBERT DAVIS

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4. Effective September 1, 1966.
5. Effective July 1, 1966; during leave of J. A. Branch, Business Manager, on leave 1966-1968.
6. Term expired December 31, 1966.
7. Effective January 1, 1967 for three-year term.
8. Resigned Secretaryship July 1, 1966.
9. Effective September 1, 1966.
10. Effective July 1, 1966.
11. Resumed position of Associate Dean, effective July 1, 1966.
12. Effective September 1, 1966.
13. Effective July 1, 1966.
14. Resumed position of Associate Dean, effective July 1, 1966.
15. Resigned July 1, 1966
16. Effective July 1, 1966.
17. Effective June 1, 1966.
18. Resigned Deanship and on leave Fall 1966.
19. Resigned Deanship and on leave 1966-1967.
20. Effective June 1, 1966.
21. Term expired May 1, 1966.
22. Effective May 1, 1966.

Elected Members (arranged alphabetically without regard to rank)

Terms Expire December 31, 1967

DIVISION OF FINE ARTS: Edgar Alden, Ross Scroggs.

DIVISION OF HEALTH AFFAIRS: J. C. Cassell, Ernest Craige, F. W. Denny, Janet Fischer, J. B. Graham, R. L. Lindahl, J. F. Newsome, D. A. Okun,[23] Ann D. Peters, W. S. Pollitzer, O. L. Sapp, W. R. Straughn.

DIVISION OF HUMANITIES: L. A. Cotten, W. J. DeSua, O. B. Hardison, C. C. Hollis,[24] G. S. Lane, W. A. McQueen.

DIVISION OF NATURAL SCIENCES: E. G. Barry, W. A. Bowers, D. C. Jicha, V. I. Mann.

DIVISION OF SOCIAL SCIENCES: W. B. Aycock, G. A. Barrett, S. B. Baxter, H. P. Brandis, Jr., E. P. Douglass, M. S. Heath, Jr., C. H. Pegg, J. W. Prothro,[25] R. E. Sommerfeld, G. V. Taylor, G. B. Tindall, Rollie Tillman, W. J. Wicker.

Terms Expire December 31, 1968

DIVISION OF FINE ARTS: None.

DIVISION OF HEALTH AFFAIRS: D. C. Abele, Billy Baggett, W. R. Berryhill, H. R. Brashear, K. M. Brinkhous, J. A. Bryan, Myrl Ebert, H. J. Fallon, W. B. Herring, R. R. Huntley, L. G. MacKinney, J. K. Spitznagel.

DIVISION OF HUMANITIES: A. G. Engstrom, R. L. Frautschi, D. W. Patterson, D. R. Reedy,[26] H. W. Reichert, Ria Stambaugh, Weldon Thornton.

DIVISION OF NATURAL SCIENCES: W. J. Hall, P. S. Hubbard, W. R. Mann, Elizabeth McMahan, A. C. Mewborn, B. J. Pettis, M. E. Watkins, W. H. Wheeler.[27]

DIVISION OF SOCIAL SCIENCES: D. G. Basile, G. A. Bell,[28] J. L. Godfrey, John Gulick, Mary Kellam, K. L. Penegar, J. L. Sanders, A. M. Scott.

Terms Expire December 31, 1969

DIVISION OF FINE ARTS: J. J. Carter, W. M. Hardy.

DIVISION OF HEALTH AFFAIRS: W. B. Blythe, W. E. Easterling, C. C. Fordham, C. W. Gottschalk, J. C. Herion, W. D. Huffines, W. L. Ivey, G. P. Manire, J. S. Pagano, B. R. Wilcox, J. W. Woods, W. B. Wood, Daniel Young.

DIVISION OF HUMANITIES: R. C. Lyon, Vasa Mihailovich, C. D. Wright.

DIVISION OF NATURAL SCIENCES: J. C. Lucchesi, D. W. Misch.

DIVISION OF SOCIAL SCIENCES: R. M. Anderson, J. R. Caldwell, G. B. Cleveland, C. E. Dameron, R. H. Dawson, P. F. Earey, Frances Hogan, Earle Wallace, John K. Nelson.

STANDING COMMITTEES OF THE FACULTY

1967

ADVISORY (Elected: terms expire December). 1967: J. R. Gaskin, J. C. Sloane, J. W. Thibaut; 1968: H. P. Brandis, Jr., J. L. Godfrey, Eugen Merzbacher; 1969: W. B. Aycock, F. N. Cleaveland, B. G. Greenberg.

[29]ADVISORY COMMITTEE ON ADMISSIONS AND RECORDS. N. L. Beach, C. C. Bernard (ex officio), C. O. Cathey, Jacques Hardré, F. W. Klingberg, G. P. Hager, Eugen Merzbacher, J. C. Morrow (Chairman), J. C. Sloane, R. E. Strong (ex officio).

ATHLETICS. 1967: O. K. Cornwell, F. W. Hanft, C. P. Lyons; 1968: G. A. Barrett, P. G. Phialas, W. L. Wiley; 1969: E. McG. Hedgpeth (Chairman), F. W. Klingberg.

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23. Absent on leave 1966-1967, Margaret Dolan Alternate
24. Absent on leave Fall 1966-1967, E. M. Adams, Alternate.
25. Absent on leave 1966-1967, R. L. Simpson, Alternate.
26. Absent on leave Fall 1966-1967, R. A. Bain, Alternate.
27. Absent on leave 1966-1967, R. G. Hiskey, Alternate.
28. Absent on leave 1966-1967, J. H. Ballew, Alternate.
29. Members of this committee are appointed because of their official position.

BUILDINGS AND GROUNDS. 1967: J. A. Parker; 1968: C. O. Cathey; 1969: R. E. Jamerson; 1970: S. A. Stoudemire (Chairman); 1971: J. C. Sloane; 1972: M. W. Lee; 1973: J. A. Williams; 1974: George Welsh; 1975: C. A. Miller.

[30]CATALOGUE. C. C. Bernard, Porter Cowles, J. R. Gaskin, Claiborne Jones (Chairman), C. P. Lyons.

ENGLISH COMPOSITION. 1967: J. L. Coe, C. M. Foust, J. L. Morrison, K. L. Reckford, F. W. Vogler; 1968: R. B. Graves, I. R. Hagadorn, Cleone M. Hill, W. A. McQueen (Chairman), J. E. Semonche, Ria Stambaugh; 1969: R. E. Lonsdale, D. G. Monroe.

ESTABLISHED LECTURES. 1967: R. L. Davis, C. H. Pegg; 1968: Bernard Boyd, C. C. Hollis, N. N. Luxon (Chairman); 1969: G. A. Kennedy, I. M. Taylor.

FACULTY HEARINGS (Elected: terms expire December). 1967: W. A. Bowers; 1968: D. A. Okun,[31] 1969: W. B. Aycock; 1970: H. P. Brandis, Jr.; 1971: J. R. Gaskin.

FACULTY WELFARE. 1967: J. P. Collman, Donald Hayman (Chairman); 1968: Rosemary Kent, F. H. MacIntosh, I. N. Reynolds; 1969: J. D. Eyre, T. F. Williams.[32]

FRATERNITIES AND SORORITIES. 1967: H. L. Bodman, Jr. (Chairman), G. E. Lenski,[32] Rollie Tillman; 1968: J. B. Adams, Katherine Carmichael (ex officio), G. B. Daniel, Geraldine Gourley, W. G. Long (ex officio), J. F. McCormick; 1969: Anne Headley, G. S. Welsh.

HONORARY DEGREES (Elected: terms expire July). 1967: K. M. Brinkhous, N. A. Womack; 1968: H. P. Brandis, Jr., J. C. Sloane; 1969: W. A. Bowers, Hugh Holman.[33]

[30]INSTRUCTIONAL PERSONNEL. C. W. Anderson, N. L. Beach, W. A. Danielson, Jacques Hardré, Hugh Holman (Chairman),[33] J. C. Ingram, Margaret Kalp, F. W. Klingberg, M. W. Lee, Eugen Merzbacher, J. C. Morrow, J. D. Phillips, J. C. Sloane.

RADIOISOTOPES. 1967: D. A. Okun,[32] F. D. Pepper (Chairman); J. A. Williams; 1968: D. G. Humm, P. C. Ragland; 1969: J. H. Crawford, H. C. Thomas.

REGISTRATION. 1967: G. B. Daniel, R. E. Jamerson, R. J. Kremer, W. A. McQueen, G. E. Shepard, A. E. Stiven, Earle Wallace, M. A. Woodard; 1968: F. M. Duffey, C. S. George, A. C. Mewborn, C. H. Pegg, A. M. Scott, J. A. Taylor, M. S. Wood; 1969: C. C. Bernard, Zane Eargle, J. R. Gaskin, Russell Graves, R. E. Strong (Chairman), Marcus Waller.

RETIREMENT ARRANGEMENTS. 1967: C. E. Bowerman, H. T. Lefler; 1968: H. P. Brandis, Jr., F. J. Schwentker (Chairman); 1969: P. P. Green, J. K. King.

SCHOLARSHIPS, AWARDS, AND STUDENT AID. 1967: R. G. Byrd, J. R. Caldwell (Chairman), L. A. Cotten, W. M. Geer, (ex officio), Everett Hampton (ex officio), J. M. Saunders, H. D. Sessoms, W. A. Terrill, M. E. Woodard (ex officio); 1968: G. D. Bell,[32] R. G. Hiskey, W. W. Rabb, J. M. Sorrow, Marion S. Wood; 1969: Edward French, W. J. Koch, W. G. Long, H. V. Murray.

STUDENT DISCIPLINE (Elected: terms expire July). 1967: S. G. Barnes, W. J. Koch; 1968: D. G. Basile, G. V. Taylor (Chairman); 1969: C. C. Fordham, K. L. Penegar.

TELEVISION PROGRAMMING. 1967: S. B. Baxter, S. S. Hill, V. I. Mann; 1968: J. H. Ballew, Francis Hogan, W. P. Richardson; 1969: J. B. Adams, C. S. George, Dwight Rhyne (Chairman).

UNIVERSITY GOVERNMENT. 1967: Wilton Mason, R. M. Miller; 1968: R. L. Lindahl, S. W. Wurfel; 1969: E. A. Cameron, J. B. Graham (Chairman), Dougald MacMillan.

MEMBERS OF THE PRESIDENT'S ADVISORY COUNCIL ON EDUCATIONAL POLICY. (Elected: terms expire July). 1967: K. M. Brinkhous; 1968: F. N. Cleaveland; 1969: J. C. Sloane; 1970: E. D. Palmatier; 1971: Hugh Holman.[33]

30. Members of this committee are appointed because of their official position.
31. Absent on leave, year 1966-1967, J. B. Graham, Alternate.
32. Absent on leave, year 1966-1967.
33. Absent on leave, March 1, 1967 to August 31, 1967.

OFFICERS AND ADMINISTRATIVE BOARDS OF COLLEGES AND SCHOOLS

JOSEPH CARLYLE SITTERSON, Ph.D., *Chancellor*

CLAIBORNE STRIBLING JONES, Ph.D., *Assistant to the Chancellor*

COMMITTEE ON INSTRUCTIONAL PERSONNEL. C. HUGH HOLMAN, Ph.D., *Chairman;* JAMES DICKSON PHILLIPS, B.S., J.D., FRANK W. KLINGBERG, Ph.D., C. WILSON ANDERSON, LL.B., MARGARET ELLEN KALP, M.A. in L.S., JACQUES HARDRÉ, Ph.D., JAMES CARLTON INGRAM, Ph.D., MAURICE WENTWORTH LEE, Ph.D., WAYNE ALLEN DANIELSON, Ph.D., HARVEY EUGENE LEHMAN, Ph.D., NORTON LEWIS BEACH, Ed.D., JOHN CHARLES MORROW III, Ph.D., JOSEPH CURTIS SLOANE, Ph.D.

The General College

JOHN CHARLES MORROW III, Ph.D., *Dean*

GEORGE EDWARD SHEPARD, Ed.D., *Associate Dean*

SAMUEL GILL BARNES, Ph.D., JAMES ROY CALDWELL, Ph.D., JOEL J. CARTER, Ph.D., MELVIN ARTHUR CHAMBERS, Ph.D., WALTER ROBERT FALLAW, JR., Ph.D., EDWARD MICHAEL GALLIGAN, Ph.D., DONALD CHARLES JICHA, Ph.D., JOSEPH RAMON JONES, Ph.D., MARY TURNER LANE, Ed.D., DAVID THEODORE LAPKIN, Ph.D., LILLIAN YOUNGS LEHMAN, Ph.D., ANCEL CLYDE MEWBORN, Ph.D., RICHARD HILL ROBINSON, JR., LL.B., FREDERICK CARLYLE SHEPARD, Ph.D., WILLIAM ROBERT SHERRARD, Ph.D., WILLIAM RINGGOLD STRAUGHN, Ph.D., JAMES ANDREW WILDE, B.A., *Advisers*

ADMINISTRATIVE BOARD.[1] 1967: NORVAL NEIL LUXON, Ph.D., WILLIAM ALBERT MCKNIGHT, Ph.D.; 1968: CLAUDE SWANSON GEORGE, JR., Ph.D., VICTOR AUGUST GREULACH, Ph.D.; 1969: EDWARD ALEXANDER CAMERON, Ph.D., WILTON MASON, Ph.D.; 1970: WILLIAM ASHLEY MCQUEEN III, Ph.D.; the Chancellor, the Provost, the Dean of Student Affairs, the Director of Admissions, the Associate Dean of the College of Arts and Sciences (ex officio).

The College of Arts and Sciences

JOHN CHARLES MORROW III, Ph.D., *Dean*

FRANK MARION DUFFEY, Ph.D., *Associate Dean*

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1. Terms expire the year indicated.

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2. Except the M.B.A. Program.
3. Terms expire the year indicated.
4. The Associate Dean serves as the Secretary of the Board
5. Terms expire the year indicated.

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7. This office separated from Graduate School July 1, 1966.
8. Effective September 1, 1966.
9. Effective February 4, 1966; returned to Associate Deanship September 1, 1966.

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ARCHIE WALLACE COPELAND, B.S., *Assistant Director, Graham Memorial Student Union*

1. Resigned July 18, 1966.
2. Effective July 15, 1966.

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JACK PORTER, A.B., M.A. Ph.D., *Director of Television, North Carolina State University at Raleigh*

3. Resigned June 30, 1966.
4. Effective September 1, 1966.
5. Resigned April 12, 1966.
6. Effective May 30, 1966.
7. Resigned August 31, 1966.
8. Effective September 1, 1966.
9. Terms expire the year indicated.

EMIL WILLIAM YOUNG, JR., *Director of Television, The University of North Carolina at Greensboro*

ALAN BRIDGEMAN MACINTYRE, B.E.E., M.S.E.E., *Director of Engineering*

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CHARLES FREMONT MILNER, A.M. in Ed., *Director*

DWIGHT CARROLL RHYNE, A.M., *Associate Director*

EUGENE RAY WATSON, Ph.D., *Associate Director*

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UNIVERSITY LIBRARIES

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NICHOLAS ACHÉE, *Geology and Zoology Libraries;* DONALD AXMAN, *Catalogue Department;* HARRY BERGHOLZ, *Chief Bibliographer;* RHODA CHANNING, *Acting Undergraduate Librarian;* MYRL LUA-FRANCES EBERT, *Health Affairs Libraries;* ARCHIE R. FIELDS, *Circulation Department;* ASHBY J. FRISTOE, *Acquisitions Department;* LOUISE M. HALL, *Humanities Division;* LOUISE J. HAWKINS, *Acting Head, Business Administration and Social Sciences Division;* GAY HERTZMAN, *Art Library;* MARY C. HOPKINS, *Mathematics-Physics and Chemistry Libraries;* LAWRENCE F. LONDON, *Rare Book Room;* MARY W. OLIVER, *Law Library;* JAMES W. PATTON, *Manuscripts Department;* WILLIAM S. POWELL, *North Carolina Collection;* JAMES PRUETT, *Music Library;* CHARLES L. SCHLIECKER, *Business Manager;* BETTY L. ZOUCK, *Botany Library*

UNIVERSITY NEWS BUREAU

ALFRED GUY IVEY, *Director*

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TALBERT, RUPERT BAYLESS VANCE, WILLIAM LEON WILEY, NATHAN ANTHONY WOMACK; the Chancellor, the Business Manager (ex officio).
ADVISER TO THE BOARD. LOUIS ROUND WILSON

UNIVERSITY TESTING SERVICE

JAMES WILLIAM LITTLE, Ph.D., *Director*

WILLIAM HAYES ACKLAND MEMORIAL ART CENTER

JOSEPH CURTIS SLOANE, Ph.D., *Director*

OFFICERS OF INSTRUCTION

WILLIAM CLYDE FRIDAY, *President of The University of North Carolina*
B.S., 1941 (North Carolina State); LL.B., 1948 (North Carolina); LL.D., (Wake Forest; Belmont Abbey; Duke; Princeton; Elon; Davidson)
JOSEPH CARLYLE SITTERSON, *Chancellor of The University of North Carolina at Chapel Hill*
A.B., 1931, A.M., 1932, Ph.D., 1937 (North Carolina)

By action of the Trustees of the University, the General Faculty includes all members of the University's teaching force above the rank of instructor and all general administrative officers of the institution. In the President and the General Faculty is vested final authority (under the Trustees) over all matters of University policy and activity. At present the legislative functions of the General Faculty are vested in the Faculty Council. Under the General Faculty the colleges and the schools have separate faculties and administrative boards, which have final authority over matters pertaining solely to such colleges or schools. In the following list are included the names of all members of the General Faculty and the names of all instructors. The names are arranged in alphabetical order. The date following the name indicates the year of appointment. The word clinical used in a title indicates that the individual has part-time teaching duties.

DONALD CARISLE ABELE (1961; 1963), *Assistant Professor of Medicine*
B.A., 1953 (Central College); M.D., 1957 (Washington University)
JAMES RALPH ABERNATHY (1965), *Assistant Professor of Biostatistics*
B.S., 1951 (Howard); M.S.P.H., 1953, Ph.D., 1965 (North Carolina)
NICHOLAS ACHÉE, JR. (1964), *Geology Librarian*
B.A., 1958, M.A., 1960, M.S. in L.S., 1963 (Louisiana State)
ELIE MAYNARD ADAMS (1948), *Professor of Philosophy*
A.B., 1941, A.M., 1944 (Richmond); B.D., 1944 (Colgate-Rochester Divinity School); A.M., 1947, Ph.D., 1948 (Harvard)
HARVEY ADAMS (1963), *Clinical Instructor in Obstetrics and Gynecology*
A.B., 1951, M.D., 1955 (North Carolina)
JOHN BERRY ADAMS (1958), *Professor of Journalism and Research Professor in the Institute for Research in Social Science*
A.B., 1953 (California); M.S., 1954, Ph.D., 1957 (Wisconsin)
JOSEPH EDISON ADAMS (1935), *Professor of Botany*
B.S., 1929 (Michigan); M.A., 1932 (Columbia); Ph.D., 1935 (California)

[1]NICHOLSON BARNEY ADAMS (1924), *Professor of Spanish*
A.B., 1915, Litt.D. (Washington and Lee); M.A., 1920, Ph.D., 1922 (Columbia)
RAYMOND WILLIAM ADAMS (1920), *Professor of English*
A.B., 1920 (Beloit); A.M., 1921, Ph.D., 1928 (North Carolina)
WILLIAM LESTER ADCOCK, JR. (1965), *Clinical Instructor in Surgery*
B.S., 1952 (Wake Forest); M.D., 1956 (Bowman Gray)
GEORGE WILLIAM ADKINS (1966), *Lecturer in the School of Business Administration*
B.S., 1959, M.S., 1961 (North Carolina State)
MURRAY A. AITKIN (1966), *Visiting Assistant Professor of Psychology*
B.S., 1961, Ph.D., 1966 (University of Sydney, Australia)
LIBERO AJELLO (1964), *Adjunct Associate Professor of Parasitology (Field)*
A.B., 1939, M.A., 1940, Ph.D., 1947 (Columbia)
SUSAN GREY AKERS (1931), *Professor of Library Science and Dean of the School of Library Science, Emeritus (1954)*
A.B., 1909 (Kentucky); Certificate, 1913 (Library School, Wisconsin); Ph.D., 1932 (Chicago)
EDGAR HIESTER ALDEN (1949), *Professor of Music*
B.M., 1936, M.M., 1940 (Oberlin); A.M., 1950, Ph.D., 1956 (North Carolina)
AMELIE VIRGINIA MARIE ALDIGE (1966), *Research Associate in Public Health Administration*
B.A., 1960, M.Ed., 1961 (North Carolina)
VIRGIL CHARLES ALDRICH (1965), *Professor of Philosophy*
B.A., 1925 (Ohio Wesleyan); Diplome d'Etudes Superieures de Philosophie, 1928 (Sorbonne); Ph.D., 1931 (California); L.H.D. (Hon.) 1961 (Ohio Wesleyan)
DOUGLAS A. ALEXANDER (1966), *Research Associate in Biostatistics*
B.S., 1965 (University of Victoria)
JOHN VOLNEY ALLCOTT (1940), *Professor of Art*
Ph.B., 1928 (Wisconsin); Diploma, 1932 (Art Institute of Chicago); Certificate, 1934 (Royal Academy of Art, Florence, Italy); M.A., 1936 (Chicago)
DAVID M. ALLEN (1965), *Research Associate in Biostatistics*
B.S., 1961, M.S., 1964 (Kentucky); Master of Experimental Statistics, 1966 (North Carolina State)
DON LEE ALLEN (1959), *Associate Professor of Periodontology and Oral Pathology*
D.D.S., 1959 (North Carolina); M.S., 1964 (Michigan)
ERNEST MARVIN ALLEN, JR. (1940), *Professor of Physical Education and Head Soccer Coach*
A.B., 1938, A.M., 1940 (North Carolina); Ed.D., 1960 (Pennsylvania State)
LEROY ALLEN (1965), *Clinical Instructor in Surgery*
B.S., 1945 (Wake Forest); M.D., 1946 (Bowman Gray)
WALTER ALLEN, JR. (1945), *Professor of Latin*
A.B., 1932 (Wesleyan); Ph.D., 1936 (Yale)
MARCELINO AMAYA (1964), *Clinical Assistant Professor of Psychiatry*
M.D., 1954 (University of Mexico)
[2]JOSEF ANDERLE (1962), *Associate Professor of History*
B.A., 1948 (University of Prague); Ph.D., 1961 (Chicago)
RICHARD N. ANDERSEN (1966), *Assistant Professor of Pharmacology*
B.A., 1956 (Abilene Christian College); Ph.D., 1960 (Baylor)
CARL ELMORE ANDERSON (1940-42; 1950), *Professor of Biochemistry*
B.S., 1935 (Connecticut); Ph.D., 1943 (North Carolina)
CARL WILSON ANDERSON (1966), *Professor of Social Work and Dean of the School of Social Work*
A.B., 1934 (Pennsylvania State University); M.S.W., 1936, D.S.W., 1953 (University of Pennsylvania School of Social Work); LL.B., 1957 (William Mitchell College of Law)
DONALD BENTON ANDERSON (1963), *Professor of Botany*
B.A., 1920, B.Sc., M.A., 1922, Ph.D., 1925 (Ohio State)
EVELYN LENORE ANDERSON (1956), *Research Associate in the Department of Epidemiology*
B.S., 1930 (Iowa State College); M.P.H., 1954 (North Carolina)
[3]LARRY B. ANDERSON (1964), *Research Associate in Chemistry*
B.S., 1959 (Washington); Ph.D., 1964 (Syracuse)
ROBERT MEREDITH ANDERSON (1965), *Assistant Professor of Education*
B.S., 1958 (Slippery Rock State College); M.A., 1960 (Bradley); Ed.D., 1965 (Pittsburgh)

1. Retired June 1, 1966.
2. Absent on leave, fall semester 1966-1967.
3. Resigned August 31, 1965.

ROBERT NELSON ANDERSON, JR. (1966), *Lecturer in Planning*
B.S., 1951 (Virginia Polytechnic Institute); M.R.P., 1964 (North Carolina)

JAMES CLARENCE ANDREWS (1937), *Professor of Biochemistry, Emeritus (1957)*
B.S. in Chem., 1915 (Iowa); Ph.D., 1918 (Columbia); Prof. Hon., 1948 (San Carlos, Guatemala)

ROBERT WALKER ANGELL (1966), *Visiting Assistant Professor of Zoology*
B.S., 1958 (Beloit College); Ph.D., 1965 (Chicago)

DENNIS RAY APPLEYARD (1966), *Assistant Professor of Economics*
A.B., 1961 (Ohio Wesleyan); A.M., 1963, Ph.D., 1966 (Michigan)

HARVEY E. ARCHER (1962), *Associate Professor of Hospital Administration*
B.A., 1939 (George Washington); M.H.A., 1958 (Baylor)

CAROL P. ARMSTRONG (1966), *Research Associate in Public Health Administration*
A.B., 1965 (Bryn Mawr)

[4]WALTER WERNER ARNDT (1957), *Associate Professor of Slavic and Linguistics*
Dipl. Econ. Pol. Sc. (Oxon.), 1936, B.S., 1943 (Robert College, Istanbul, Turkey); Ph.D., 1956 (North Carolina)

CHARLES B. ARNOLD (1965), *Assistant Professor of Public Health Administration*
B.S., 1956 (Puget Sound); M.D., 1960 (McGill); M.P.H., 1965 (North Carolina)

KATHERINE N. ASE (1964), *Instructor in Nursing*
B.S.P.H.N., 1955 (Michigan); R.N.; M.S.N., 1964 (Western Reserve)

ALLAN ASHMAN (1965), *Assistant Professor of Public Law and Government*
A.B., 1962 (Brown); LL.B., 1965 (Columbia)

ANNE PRESTON ASKEW (1963), *Clinical Instructor in Pediatrics*
A.B., 1952 (Woman's College, North Carolina); M.D., 1956 (Duke)

ELI JOHN ATTAYEK (1959), *Clinical Instructor in Periodontology and Oral Pathology*
B.S., 1956, D.D.S., 1959 (North Carolina)

LAURENCE GREEN AVERY (1966), *Assistant Professor of English*
B.A., 1957 (Baylor); M.A., 1958 (Michigan); Ph.D., 1966 (Texas)

DONALD HOMER AXMAN (1964), *Chief, Catalogue Department, University Library*
Mus. B., 1950 (Yale); M.S. in L.S., 1957 (Simmons College)

WILLIAM BRANTLEY AYCOCK (1948), *Kenan Professor of Law (1966)*
B.S., 1936 (North Carolina State); A.M., 1937, J.D., 1948 (North Carolina); LL.D. (Wake Forest; Atlantic Christian; Duke)

FRANK M. BADROCK (1956), *Clinical Assistant Professor of Psychiatry*
M.B., B.Ch., 1933 (University of Leeds, England); Diploma in Psychiatry, 1955 (University of Edinburgh, Scotland)

HERBERT RALPH BAER (1945), *Alumni Distinguished Professor of Law (1961)*
A.B., 1923 (Cornell); LL.B., 1926 (Harvard)

BILLY BAGGETT (1957), *Associate Professor of Pharmacology and Biochemistry*
B.A., 1947 (Mississippi); Ph.D., 1952 (Saint Louis)

JAMES OSLER BAILEY (1930), *Professor of English*
A.B., 1924, A.M., 1927, Ph.D., 1934 (North Carolina)

ROBERT ADDISON BAIN (1964), *Assistant Professor of English*
B.S., 1954 (Eastern Illinois State College); A.M., 1959, Ph.D., 1964 (Illinois)

HERMAN GLENN BAITY (1920), *Professor of Sanitary Engineering, Emeritus (1955)*
A.B., 1917, S.B. in C.E., 1922 (North Carolina); S.M., 1925, Sc.D., 1928 (Harvard)

BENJAMIN RIVES BAKER (1964), *Assistant Professor of Pedodontics*
B.A., 1951 (Guilford); M.E., 1952, D.D.S., 1961, M.S., 1964 (North Carolina)

WILLIAM E. BAKEWELL, JR. (1965), *Assistant Professor of Psychiatry*
B.A., 1943, M.A., 1944 (Iowa); M.D., C.M., 1949 (McGill)

JULIUS HUNTER BALLEW (1962), *Assistant Professor of Education*
A.B., 1953, M.Ed., 1958, Ph.D., 1965 (North Carolina)

ABDO BISHARA BARDAWIL (1964), *Research Associate in Chemistry*
B.Sc., 1957, M.Sc., 1959 (American University of Beirut); Ph.D., 1964 (North Carolina)

BENNIE DALE BARKER (1958), *Associate Professor of Preventive Dentistry and Dental Science, and Director of Graduate Studies and Continuing Education*
B.S., 1954 (Davidson); D.D.S., 1958 (North Carolina); M.Ed., 1962 (Duke)

KARL L. BARKLEY (1967), *Instructor in Obstetrics and Gynecology*
A.B., 1955, M.D., 1962 (North Carolina)

ROBERT JOHN BARNARD (1962), *Assistant Professor of Art*
A.B., 1960 (North Carolina); M.Ed., 1963 (North Carolina)

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4. Resigned August 31, 1966.

GEORGE ERIC BARNES (1963), *Professor of Sanitary Engineering in the Department of Environmental Sciences and Engineering*
S.B.C.E., 1923 (Massachusetts Institute of Technology); C.E., 1935 (Cass Institute of Technology); M.A.R.L., 1953 (Western Reserve)

RUBY G. BARNES (1966), *Assistant Professor of Nursing*
Dip. in Nursing, 1939 (Baker Sanatorium School of Nursing, Lumberton, North Carolina); R.N.; B.S.N., 1956 (Duke); M.S., 1960 (North Carolina)

SAMUEL GILL BARNES (1953), *Associate Professor of English, Head Wrestling Coach, and Adviser in the General College*
B.S., 1936 (Oklahoma A. & M.); A.M., 1946, Ph.D., 1953 (North Carolina)

[5]THOMAS BUCHANAN BARNETT (1952), *Professor of Medicine*
A.B., 1944 (Tennessee); M.D., 1949 (Rochester)

HOWARD C. BARNHILL (1966), *Adjunct Assistant Professor of Public Health Education*
B.S. (Agricultural & Technical College); M.S.P.H., 1948 (North Carolina College at Durham)

GEORGE STANLEY BAROFF (1963), *Associate Professor of Psychology*
B.S., 1948, M.A., 1950 (George Washington); Ph.D., 1955 (New York University)

HARRIET HYLTON BARR (1965), *Research Associate in Public Health Education*
A.B., 1946 (Duke); M.P.H., 1948 (North Carolina)

GERALD ALAN BARRETT (1947), *Professor of Business Administration*
A.B., 1933 (Lehigh); LL.B., 1936 (Columbia)

EDWARD GAIL BARRY (1962), *Assistant Professor of Botany*
A.B., 1955 (Dartmouth); Ph.D., 1961 (Stanford)

ROGER EVANS BARTON (1953), *Professor of Operative Dentistry and Superintendent of Clinics*
D.D.S., 1945 (Pennsylvania)

DAVID GIOVANNI BASILE (1949), *Associate Professor of Geography and Adviser in the College of Arts and Sciences*
A.B., 1936 (Washington and Lee); M.A., 1939, Ph.D., 1964 (Columbia)

ANAND P. BATRA (1966), *Research Associate in Physics*
B.Sc., 1952, M.Sc., 1953 (Panjab University, India); Ph.D., 1966 (Rensselaer Polytechnic Institute)

MARIO C. BATTIGELLI (1965), *Associate Professor of Preventive Medicine, Associate Professor of Occupational Health (School of Public Health) and Assistant Professor of Medicine*
M.D., 1951 (Florence, Italy); M.P.H., 1957 (Pittsburgh)

MICHEL FRANCOIS BAUD (1965), *Research Associate in Physics*
Diploma, 1959 (Swiss Federal Institute of Technology); Ph.D., 1965 (Florida State)

E. EARL BAUGHMAN (1954), *Professor of Psychology and Research Professor in the Institute for Research in Social Science and Clinical Professor of Psychology in Psychiatry*
B.S., 1946, Ph.D., 1951 (Chicago)

KARL E. BAUMAN (1966), *Research Associate in Maternal and Child Health*
A.B., 1961, M.A., 1963 (Nebraska); Ph.D., 1965 (Florida State)

JAMES WYATT BAWDEN (1961), *Professor of Pedodontics and Dean of the School of Dentistry*
D.D.S., 1954, M.S., 1960, Ph.D., 1961 (Iowa)

STEPHEN BARTOW BAXTER (1958), *Professor of History*
B.A., 1950 (Harvard); Ph.D., 1955 (Cambridge)

NORTON LEWIS BEACH (1966), *Dean of the School of Education and Professor of Education*
B.B.A., 1938, Ed.M., 1940 (Boston); Ed.D., 1948 (Columbia)

ALBERTA MARGARET BEAT (1953), *Assistant Director and Assistant Professor of Dental Hygiene*
R.D.H., 1946 (Columbia); B.S., 1952 (Washington)

FRANK EUGENE BEAVER (1966), *Instructor in Radio, Television, and Motion Pictures*
B.A., 1960, M.A., 1966 (North Carolina)

[6]ALBERT A. BECHTOLDT, JR. (1966), *Instructor in the Department of Surgery*
A.B., 1957 (Princeton); M.D., 1961 (Yale)

JAMES D. BECK (1964), *Research Associate in Epidemiology*
B.A., 1964 (North Carolina)

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5. Absent on leave, September 1, 1966 through August 31, 1967.
6. Resigned July 31, 1966.

CAROLINE BECKER (1965), *Assistant Professor of Epidemiology*
A.B., 1946 (Vanderbilt); M.D., 1950 (Johns Hopkins)

MARLENE BEDSOLE (1966), *Instructor in Nursing*
B.S.N., 1963 (Alabama); R.N.; M.S.N., 1966 (North Carolina)

CHARLES DALE BEERS (1918-22; 1927), *Professor of Zoology, Emeritus (1960)*
A.B., 1921, A.M., 1922 (North Carolina); Ph.D., 1925 (Johns Hopkins)

FREDERICK OTTEN BEHRENDS (1962), *Assistant Professor of History*
A.B., 1958 (Belmont Abbey College); M.A., 1960, Ph.D., 1962 (North Carolina)

JACK NEWTON BEHRMAN (1964), *Professor of International Business*
B.S., 1943 (Davidson); M.A., 1945 (North Carolina); M.A., 1950, Ph.D., 1952 (Princeton)

C. RITCHIE BELL (1955), *Professor of Botany*
A.B., 1947, M.A., 1949 (North Carolina); Ph.D., 1953 (California)

FRED E. BELL (1958), *Assistant Professor of Biochemistry*
A.B., 1950, M.A., 1953, Ph.D., 1957 (Emory)

GERALD DEAN BELL (1963), *Assistant Professor of Business Administration*
B.S., 1960, M.A., 1961 (Colorado); M.A., 1963, Ph.D., 1964 (Yale)

WILLIAM EDWARD BELLAMY, JR. (1960), *Clinical Instructor in Medicine*
B.S., 1945 (Wake Forest); M.D., 1947 (Bowman Gray)

EDWARD PERRY BENBOW, JR. (1954), *Clinical Assistant Professor of Pediatrics*
A.B., 1937 (North Carolina); M.D., 1941 (Duke)

WALTER RUSSELL BENSON (1956), *Associate Professor of Pathology*
M.D., 1944 (Duke)

WILLARD K. BENTZ (1966), *Assistant Professor of Sociology in Psychiatry*
B.A., 1959 (Florida); M.S., 1962, Ph.D., 1965 (Florida State)

HARRY BERGHOLZ (1957), *Head Bibliographic Services, University Library*
M.A., 1931, Ph.D., 1933 (Berlin); M.A.L.S., 1957 (Michigan)

MICHAEL KALEN BERKUT (1947), *Associate Professor of Biochemistry*
B.S., 1941 (North Carolina State University); Ph.D., 1953 (North Carolina)

CHARLES CECIL BERNARD (1947), *Director of Admissions*
A.B., 1937, M.A., 1938 (Florida)

CHARLES RICHARD BERRY (1963), *Visiting Assistant Professor of Air Hygiene in the Department of Environmental Sciences and Engineering*
A.B., 1949 (Glenville State College); M.S., 1955, Ph.D., 1958 (West Virginia University)

WALTER REECE BERRYHILL (1933), *Professor of Medicine; and Dean of the School of Medicine, Emeritus (1964); Director, Division of Education and Research in Community Medical Care, 1965*
A.B., 1921 (North Carolina); M.D., 1927 (Harvard); Sc.D. (Davidson)

HAROLD A. BIERCK (1948), *Professor of History*
B.A., 1938, M.A., 1940, Ph.D., 1944 (U.C.L.A.)

GEORGE LEE BIRELINE (1966), *Visiting Associate Professor of Art*
B.F.A., 1949 (Bradley); M.A.C.A., 1963 (North Carolina)

JAY SPENCER BIRNBRAUER (1964), *Assistant Professor of Psychology*
B.S., 1954 (William and Mary); Ph.D., 1962 (Indiana)

HAROLD JOSEPH BISSELL (1966), *Visiting Professor of Geology*
B.S., 1934 (Brigham Young); M.S., 1936, Ph.D., 1948 (Iowa)

WILLIAM LAWRENCE BLACK (1966), *Instructor in the Department of Medicine*
A.B., 1956 (Duke); M.D., 1960 (North Carolina)

JACK E. BLACKBURN (1963), *Associate Professor of Education*
B.S., 1954 (Florida State); M.A., 1957 (Peabody); Ed.D., 1962 (New York University)

ROY JACKSON BLACKLEY (1963; 1966), *Clinical Instructor in Psychiatry*
B.S., 1950 (North Carolina); M.D., 1953 (McGill University)

JAMES HORTON BLACKMAN (1958), *Professor of Economics*
A.B., 1939 (Swarthmore College); Certificate 1949 (Russian); M.A., 1949, Ph.D., 1958 (Columbia)

JAMES CYRIL DICKSON BLAINE (1938), *Professor of Transportation*
B.Comm., 1934 (Queen's University, Canada); S.M., 1939, Ph.D., 1941 (North Carolina)

GEORGE WALKER BLAIR, JR. (1953), *Clinical Associate Professor of Medicine*
B.S., 1944 (North Carolina); M.D., 1947 (Pennsylvania)

FAUSTENA BLAISDELL (1965), *Professor of Nursing and Public Health Nursing*
Dip. in Nursing, 1930 (Winchester Hospital, Massachusetts); R.N.; B.S.N.Ed., 1939 (Columbia); M.Litt., 1946 (Pittsburgh); Ed.D., 1960 (Columbia)

JOHN PAUL BLAKE (1966), *Clinical Instructor in Psychiatry*
B.A., 1956 (Wake Forest); M.D., 1960 (Bowman Gray)

7. Absent on leave, September 1, 1966 through September 1, 1967.

[8]HUBERT MORSE BLALOCK, JR. (1964), *Professor of Sociology and Research Professor in the Institute for Research in Social Science*
A.B., 1949 (Dartmouth); M.A., 1953 (Brown); Ph.D., 1954 (North Carolina)

KARL H. BLAU (1966), *Assistant Professor of Biochemistry*
B.S., 1952, Ph.D., 1957 (University of London)

KRESIMIR BLAZEVIC (1966), *Research Associate in Chemistry*
B.Sc., 1957, Ph.D., 1964 (University of Zagreb)

MARGARET BLEE (1941), *Professor of Public Health Nursing, Emeritus (1962)*
Diploma, 1918 (St. Joseph School of Nursing, Kansas City, Mo.); R.N.; B.S., 1933 (Missouri); M.Ed., 1941 (Mills College)

RUTH MARSEY BLUM (1964), *Instructor in Sociology*
B.S., 1952 (Cornell); M.A., 1958 (Rochester)

CARL S. BLYTH (1949), *Professor of Physical Education and Director of the Laboratory of Applied Physiology*
B.S., 1947 (Lenoir Rhyne); A.M., 1948, Ph.D., 1953 (North Carolina)

WILLIAM BREVARD BLYTHE (1960), *Associate Professor of Medicine and Director, Clinical Research Unit*
A.B., 1948 (North Carolina); M.D., 1953 (Washington University)

RALPH HENRY BOATMAN, JR. (1960), *Professor of Public Health Education*
B.S.Ed., 1943 (Southern Illinois); M.P.H., 1947, Ph.D., 1954 (North Carolina)

SANDRA BOATMAN (1965), *Research Associate in Chemistry*
B.S., 1961 (Rice); Ph.D., 1965 (Duke)

HERBERT LUTHER BODMAN, JR. (1960), *Associate Professor of History*
B.A., 1949 (North Carolina); M.A., 1952, Ph.D., 1955 (Princeton)

[9]WILHELMINA LYLES BOESSER (1964), *Instructor in Medical Technology, Section of Allied Professional Education*
A.B., 1945 (Woman's College, North Carolina)

RICHMOND PUGH BOND (1929), *Kenan Professor of English (1955)*
A.B., 1920 (Vanderbilt); A.M., 1923, Ph.D., 1929 (Harvard)

[10]HENRY F. BONGARDT (1962), *Clinical Instructor in Medicine*
M.D., 1956 (Maryland)

HENRY CHARLES BOREN (1960), *Associate Professor of History*
A.B., 1949 (Southwest Missouri State College); A.M., 1950, Ph.D., 1952 (Illinois)

RAJ CHANDRA BOSE (1948), *Kenan Professor of Statistics (1966)*
M.A., 1927, D. Litt., 1947 (Calcutta)

JOHN IVERSON BOSWELL, JR. (1964), *Assistant Professor of Psychiatry*
B.S., 1949 (North Carolina State College); M.D., 1957 (Virginia)

CLAUDE BOUYGUES (1965), *Visiting Lecturer in French*
Licence d'anglais, 1964, D.E.S., 1965 (Sorbonne); C.A.P.E.S., 1965 (Paris)

CHARLES E. BOWERMAN (1957), *Professor of Sociology and Research Professor in the Institute for Research in Social Science*
A.B., 1935 (Denison); M.A., 1941, Ph.D., 1948 (Chicago)

WAYNE A. BOWERS (1947), *Professor of Physics*
A.B., 1938 (Oberlin); Ph.D., 1943 (Cornell)

BERNARD H. BOYD (1950), *James A. Gray Professor of Biblical Literature (1950)*
A.B., 1932 (Presbyterian College); Th.B., 1935 (Princeton Theological Seminary); M.A., 1935 (Princeton); Th.D., 1946 (Union Theological Seminary in Virginia)

JAMES H. BOYERS (1966), *Adjunct Associate Professor of Epidemiology*
M.D., 1940 (Ohio State)

LUCY L. BOYLAN (1966), *Assistant Professor of Nursing and Acting Director of Nursing Service, North Carolina Memorial Hospital*
Dip. in Nursing, 1939 (Presbyterian Hospital, Philadelphia); R.N.; B.S.P.H.N., 1942 (North Carolina); M.S., 1948 (Pennsylvania)

ROBERT G. BRAME (1966), *Assistant Professor of Obstetrics and Gynecology*
B.S., 1952, M.D., 1955 (North Carolina)

PAUL DICKERSON BRANDES (1966), *Professor of English*
B.A., 1942 (Eastern Kentucky); M.A., 1947, Ph.D., 1953 (Wisconsin)

HENRY PARKER BRANDIS, JR. (1940), *Graham Kenan Professor of Law (1966)*
A.B., 1928 (North Carolina); LL.B., 1931 (Columbia); LL.D., 1951 (Catawba)

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8. Absent on leave, spring semester 1967.
9. Resigned June 30, 1966.
10. Resigned September 30, 1966.

MARTHA MILLER BRANDIS (1964), *Assistant Cataloger, Division of Health Affairs Library*
A.B., 1945, M.S. in L.S., 1964 (North Carolina)

ANTHONY BRANNON (1966), *Lecturer in Business Law*
A.B., 1960, LL.B., 1962 (North Carolina)

AMES LEONARD BRANNON, JR. (1959), *Associate Professor of Pharmacy*
B.S., 1948, M.S., 1951 (Illinois); Ph.D., 1960 (Kansas)

HARRY ROBERT BRASHEAR, JR. (1953), *Associate Professor of Surgery (Orthopedics)*
A.B., 1943, M.D., 1945 (California)

[11]ALFRED THEODOR BRAUER (1941), *Kenan Professor of Mathematics (1959)*
Ph.D., 1928, Ph.D. habil., 1932 (Berlin)

[12]JOHN CHARLES BRAUER (1950), *Professor of Pedodontics*
D.D.S., 1928, A.B., 1934, M.Sc., 1936 (Nebraska)

VILHELM GÜNTER BRAUNSS (1966), *Research Associate in Physics*
Diplom Physiker, 1958, Dr. Rer. Nat., 1963 (Technische Hochschule, Darmstadt, Germany)

)ORIS BLACKWELL BRAXTON (1963), *Clinical Instructor in Pediatrics*
B.A., 1953 (Elon); M.D., 1959 (North Carolina)

CHARLES ANTHONY BREAM (1952), *Professor of Radiology*
B.S., 1936 (Grove City College); M.D., 1940 (Temple)

[13]EDWARD ARMOND BRECHT (1939), *Professor of Pharmacy*
B.S. in Phar., 1933, M.S., 1934, Ph.D., 1939 (Minnesota)

MARIANNE SONNENBRODT BRESLIN (1960), *Assistant Professor of Psychiatry*
M.D., 1946 (Medical Academy, Duesseldorf, Germany)

OHN DAVID BRIDGERS (1962), *Clinical Assistant Professor of Pediatrics*
A.B., 1940 (East Carolina College); M.D., 1950 (Duke)

NDREW G. BRIGGS (1960), *Clinical Instructor in Psychiatry*
B.S., 1952 (Hampden-Sydney); M.D., 1956 (Virginia)

BARBARA LUCILE BRIGHT (1965), *Research Associate in Political Science*
B.A., 1956, M.Ed., 1960 (North Carolina)

KENNETH MERLE BRINKHOUS (1946), *Alumni Distinguished Professor of Pathology*
B.A., 1929, M.D., 1932 (Iowa)

[14]C. VICTOR BRISCOE (1958), *Associate Professor of Physics*
B.S., 1952 (King College); M.S., 1957, Ph.D., 1958 (Rice)

REBECCA AGNES BROACH (1959), *Associate Professor of Public Health Nutrition*
B.S., 1934, M.S., 1944 (Georgia); M.P.H., 1952 (North Carolina)

)EWEY CLIFTON BROCK (1959), *Acting Associate University Librarian*
B.S., 1951 (Clemson); M.A.L.S., 1957 (Michigan); M.A. in Pol. Sci., 1961 (Florida State)

MARION M. BROOKE (1964), *Adjunct Associate Professor of Parasitology (Field)*
A.B., 1935, M.A., 1936 (Emory); Sc.D., 1942 (Johns Hopkins)

OHN CHRISTOPHER BROOKHOUSE (1966), *Assistant Professor of English*
B.A., 1959 (Stanford); M.A., 1960, Ph.D., 1964 (Harvard)

FREDERICK PHILLIPS BROOKS, JR. (1964), *Professor of Information Science*
A.B., 1953 (Duke); M.S., 1955, Ph.D., 1956 (Harvard)

LEE MARSHALL BROOKS (1927), *Professor of Sociology, Emeritus (1955)*
A.B., 1925 (Boston); A.M., 1926, Ph.D., 1929 (North Carolina)

MICHAEL PAUL BROOKS (1964), *Lecturer in Planning*
B.A., 1959 (Colgate); M.C.P., 1961 (Harvard)

THOMAS ROBERT SHANNON BROUGHTON (1965), *Paddison Professor of Classics*
A.B., 1921, A.M., 1922 (Toronto); Ph.D., 1928 (Johns Hopkins)

HENRY DAVID BRUTON (1966), *Clinical Instructor in Pediatrics*
A.B., 1957, M.D., 1961 (North Carolina)

CARL FRAZER BROWN (1950), *Professor of Education*
A.B., 1930, A.M., 1931 (South Carolina); Ph.D., 1946 (Peabody)

[1]DAVID GRANT BROWN (1961), *Associate Professor of Economics*
A.B., 1958 (Denison); M.A., 1960, Ph.D., 1961 (Princeton)

DWIN LOUIS BROWN (1961), *Associate Professor of Classics*
B.A., 1950 (Haverford); Ph.D., 1961 (Princeton)

AMES CLEMENT BROWN (1962), *Associate Professor of Sanitary Engineering*
B.S.C.E., 1949 (Illinois Institute of Technology); M.S.S.E. 1961 (Case Institute of Technology)

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11. Retired June 30, 1966.
12. Absent on leave, July 1, 1966 through July 1, 1967.
13. Resigned January 31, 1966.
14. Absent on leave, September 1, 1966 through August 31, 1967

MARGARET ALICE BROWN (1960), *Assistant Professor of Nursing*
B.S.N., 1947 (Michigan); R.N.; M.P.H., 1960 (Michigan)

CLYDE EUGENE BROWNING (1966), *Assistant Professor of Geography*
A.B., 1950, M.A., 1951 (Kent State); Ph.D., 1958 (Washington)

ALBERT HUGHES BRYAN (1946), *Professor of Public Health Nutrition*
B.S., 1927, M.D., 1931 (Harvard)

JAMES ALEXANDER BRYAN II (1965), *Assistant Professor of Medicine and Preventive Medicine*
B.S., 1953 (Davidson); M.D., 1957 (Pennsylvania)

JAMES EDWARD BRYAN (1966), *Instructor in English*
B.A., 1962 (South Carolina); M.A., 1964 (Virginia)

RICHARD HENRY BUCHER (1963), *Captain, United States Air Force; Assistant Professor of Aerospace Studies*
B.A., 1956 (Minnesota); M.A., 1958 (Duke)

PAUL LESLIE BUNCE (1952), *Professor of Surgery*
A.B., 1938 (Oberlin); M.D., 1942 (Chicago)

JOHN DAVID BURCHARD (1964), *Assistant Professor of Psychology*
B.S., 1958 (Denison); Ph.D., 1963 (Nebraska)

WILLIAM T. BURKE (1966), *Assistant Professor of Linguistics*
A.A., 1953, A.B., 1955, M.A., 1956 (Boston)

CHARLES HOYT BURNETT (1951), *Professor of Medicine*
B.A., 1934, M.D., 1937 (Colorado)

JOHN NICHOLAS BURNETT (1966), *Research Associate in Chemistry*
B.A., 1961, M.S., 1963, Ph.D., 1965 (Emory)

MAURICE MOYER BURSEY (1966), *Assistant Professor of Chemistry*
B.A., 1959, M.A., 1960, Ph.D., 1963 (Johns Hopkins)

EDGAR W. BUTLER (1964), *Assistant Professor of Sociology*
A.B., 1958 (Long Beach State College); M.A., 1962, Ph.D., 1965 (Southern California)

JAMES ROBERT BUTLER (1960), *Associate Professor of Geology*
B.S., 1952 (Georgia); M.S., 1955 (Colorado); Ph.D., 1962 (Columbia)

THOMAS CULLOM BUTLER (1950), *Professor of Pharmacology and Director of the Center for Research in Pharmacology and Toxicology*
A.B., 1930, M.D., 1934 (Vanderbilt)

KENNETH RHODES BYERLY (1957), *Professor of Journalism*
B.B.A., 1930 (Minnesota); M.A., 1932 (North Carolina)

ROBERT GRAY BYRD (1960), *Associate Professor of Law*
B.S., 1953, J.D., 1956 (North Carolina)

[15]ROBERT RANDALL CADMUS (1950), *Professor of Hospital Administration and Consulting Director of the North Carolina Memorial Hospital*
A.B., 1936 (College of Wooster); M.D., 1940 (Columbia)

JAMES ROY CALDWELL, JR. (1947), *Associate Professor of History and Modern Civilization and Adviser in the General College*
A.B., 1931 (Davidson); A.M., 1937, Ph.D., 1950 (North Carolina)

RICHARD PERCIVAL CALHOON (1945), *Professor of Business Administration*
A.B., 1930, A.M., 1932 (Pittsburgh)

[16]CATHARINE BLUE CALHOUN (1966), *Instructor in English*
B.A., 1958 (Queens College, N. C.); M.A., 1959 (Northwestern)

[17]CHARLES METZ CAMERON, JR. (1956), *Professor of Public Health Administration*
M.D., 1948 (Vanderbilt); M.P.H., 1954 (North Carolina)

EDWARD ALEXANDER CAMERON (1929), *Professor of Mathematics*
A.B. in Ed., 1928, A.M., 1929, Ph.D., 1936 (North Carolina)

[18]JOE HENDERSON CAMP (1964), *Instructor in Operative Dentistry and Endodontics*
A.A., 1958 (Gardner Webb Junior College); A.B., 1960, D.D.S., 1964 (North Carolina)

LORIN SCOTT CAMPBELL (1965), *Instructor in Hospital Administration*
B.S., 1960 (North Carolina); M.H.A., 1962 (Virginia)

[19]WILLIAM AUBREY CAMPBELL (1965), *Assistant Professor of Public Law and Government*
B.A., 1962 (Southwestern at Memphis); LL.B., 1965 (Vanderbilt)

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15. Resigned September 1, 1966.
16. Teaching fall semester, 1966.
17. Absent on leave, 1966-1967.
18. Resigned August 31, 1966.
19. Resigned September 30, 1966.

LOUISE CANTRELL (1957), *Associate Professor of Nursing*
Diploma in Nursing, 1936 (Houston Hospital School of Nursing, Houston, Mississippi); R.N.; B.S., 1950, M.S., 1960 (School of Nursing, Vanderbilt)

NTHONY DEUCHAR CARE (1966), *Visiting Associate Professor of Pharmacology*
B.A., 1949, M.A., 1954 (Cambridge); Ph.D., 1952 (University of Leeds) BVMS; MRCVS, 1959 (Royal School of Veterinary Studies, Edinburgh)

)ENNIS D. CARMICHAEL (1966), *Clinical Assistant Professor of Psychiatry*
M.B., Ch.B., 1950 (University of Aberdeen, Scotland)

CATHERINE KENNEDY CARMICHAEL (1946), *Dean of Women*
A.B., 1932 (Birmingham-Southern); M.A., 1939, Ph.D., 1943 (Vanderbilt)

[RAY L. CARPENTER (1958-59; 1960), *Lecturer in Library Science*
A.B., 1949 (St. Lawrence); M.A., 1951, M.S. in L.S., 1959 (North Carolina)

[aJAMES DAVID CARR (1965), *Research Associate in Chemistry*
B.S., 1960 (Iowa State); Ph.D., (Purdue)

)UDLEY DEWITT CARROLL (1918), *Kenan Professor of Economics (1955) and Dean of the School of Business Administration, Emeritus (1956)*
A.B., 1907 (Guilford); A.B., 1908 (Haverford); M.A., 1916 (Columbia)

LYDE CASS CARTER (1946), *Professor of Business Law*
A.B., 1925 (Emory and Henry); M.A., 1928 (Vanderbilt); LL.B., 1935 (Wilmington Law School); Ph.D., 1942 (North Carolina)

ABELLE KIRKLAND CARTER (1937), *Professor of Social Work, Emeritus (1965)*
B.S., 1924 (Boston); M.S.S., 1925 (Smith College School of Social Work)

OEL J. CARTER (1949), *Professor of Music and Adviser in the General College*
A.B., 1935 (San Jose State College); M.A., 1947, Ph.D., 1955 (Stanford)

EWIS FERRELL CARTER (1966), *Assistant Professor of Sociology and Research Associate in the Institute for Research in Social Science*
A.B., 1963, M.A., 1965, Ph.D., 1966 (Texas)

VARREN D. CARTER (1964), *Clinical Instructor in Psychiatry*
M.D., 1934 (South Carolina)

OHN CHARLES CASSEL (1954), *Professor of Epidemiology and Preceptor in Psychiatry*
B.Sc., 1941, M.B., B.Ch., 1945 (University of Witwatersrand, South Africa); M.P.H., 1953 (North Carolina)

HOMAS EDISON CASTELLOE (1961), *Clinical Instructor in Surgery (Orthopedics)*
A.B., 1952, M.D., 1956 (North Carolina)

[2ROBERT FOSTER CASTLE (1963), *Assistant Professor of Pediatrics*
A.B., 1952, M.D., 1956 (Western Reserve)

ORNELIUS OLIVER CATHEY (1947), *Professor of History and Modern Civilization and Dean of Student Affairs*
A.B., 1928, A.M., 1929 (Davidson); Ph.D., 1948 (North Carolina)

ERALD MASON CATHEY (1961), *Assistant Professor of Endodontics*
B.S., 1957 (Davidson); D.D.S., 1961 (North Carolina); M.S., 1966 (Washington)

HESTER J. CAVALLITO (1966), *Professor of Medicinal Chemistry*
B.S., 1936 (Rutgers); M.A., 1938, Ph.D., 1940 (Ohio State)

[3VERNE STRUDWICK CAVINESS (1952), *Clinical Professor of Medicine*
A.B., 1915 (Trinity College); M.D., 1921 (Jefferson)

ILLIAN TOWNSEND CELL (1965), *Assistant Professor of History and Modern Civilization*
B.A., 1959, Ph.D., 1964 (Liverpool)

LMER F. CHAFFEE (1966), *Associate Professor of Parasitology*
B.S., 1938 (Idaho); M.S.P.H., 1947 (North Carolina); Ph.D., 1952 (Duke)

NDRA MOHAN CHAKRAVARTI (1964), *Associate Professor of Statistics*
B.Sc., 1948, M.Sc., 1950, D.Phil., 1958 (Calcutta)

[AURICE ROGER CHAMBERLAND (1966), *Research Associate in Chemistry*
A.B., 1956 (Bowdoin College); M.S., 1964, Ph.D., 1966 (Maine)

[ARRIE ROGERS CHAMBERLIN (1953), *Associate Professor of Pediatrics*
A.B., 1942, M.D., 1945 (Harvard)

[ELVIN ARTHUR CHAMBERS (1959), *Professor of Pharmacy, Assistant Dean of the School of Pharmacy, and Adviser in the General College*
B.S., 1944, Ph.D., 1949 (Ohio State)

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20. Resigned August 20, 1966.
21. Absent on leave September 1, 1966 through September 1, 1967.
21a. Resigned August 31, 1966.
22. Resigned August 10, 1966.
23. Retired July 1, 1965.

HUBERT ROYSTER CHAMBLEE (1954), *Clinical Assistant Professor of Periodontology and Oral Pathology*
D.D.S., 1925 (Medical College of Virginia)

JOHN RANDOLPH CHAMBLISS (1956), *Clinical Associate Professor of Medicine*
B.S., 1942 (North Carolina); M.D., 1944 (Harvard)

EMIL THEODORE CHANLETT (1946), *Professor of Sanitary Engineering in the Department of Environmental Sciences and Engineering*
B.S., 1937 (College of the City of New York); M.S.P.H., 1939 (Columbia); M.S.S.E., 1941 (North Carolina)

FRANCIS STUART CHAPIN, JR. (1949), *Professor of Planning and Research Professor in the Institute for Research in Social Science*
A.B., 1937 (Minnesota); B.Arch.C.P., 1939, M.C.P., 1940 (Massachusetts Institute of Technology)

MARVIN EDWIN CHAPIN (1952), *Professor of Oral Surgery*
D.D.S., 1938 (Chicago College of Dental Surgery, Loyola University)

CHARLES L. CHASE (1964), *Research Associate in Maternal and Child Health*
B.S., 1960 (Guilford); M.S.P.H., 1961 (North Carolina)

JOHN BRYANT CHASE, JR. (1956), *Professor of Education, Director of the Fifth-Year Program in Teacher Education, and Assistant to the Provost of the University*
A.B., 1946, M.A., 1950 (North Carolina); Ed.D., 1954 (Virginia)

KATHLEEN S. CHEAPE (1955), *Assistant Law Librarian*
A.B., 1947 (Alabama College); M.S. in L.S., 1960 (North Carolina)

WILLIAM BAILEY CHERRY (1963), *Adjunct Associate Professor of Parasitology (Field)*
B.S., 1937 (Western Kentucky State Teachers College); M.S., 1942 (Kentucky); Ph.D., 1949 (Wisconsin)

ALPHONSE F. CHESTNUT (1948), *Professor and Director of the Institute of Marine Sciences*
B.S., 1941 (William and Mary); M.S., 1943, Ph.D., 1949 (Rutgers)

SIDNEY SHAW CHIPMAN (1950), *Professor of Maternal and Child Health and Clinical Professor of Pediatrics*
B.A., 1924 (Acadia); M.D., 1928 (McGill); M.P.H., 1947 (Yale)

SANG-IL CHOI (1963), *Associate Professor of Physics*
B.S., 1953 (Seoul University); Ph.D., 1960 (Brown)

[24]FRANK MICHAEL CHOLEWINSKI (1964), *Assistant Professor of Mathematics*
E.P., 1958, M.S., 1959 (Auburn); Ph.D., 1964 (Washington)

GEORGE CHRISTOFFERSEN (1966), *Research Associate in Epidemiology*
B.S., 1958, M.S., 1962 (Wisconsin)

GEORGIA B. CHRISTOPHER (1966), *Assistant Professor of English*
B.A., 1955 (Agnes Scott); M.A.T., 1957, M.A., 1965 (Yale)

EUNICE CHURCHILL (1956), *Chief, Circulation Department, University Library*
A.B., 1940 (Marshall College); M.L.S., 1945 (Columbia)

JOSEPH ANTHONY CIMA (1964), *Assistant Professor of Mathematics*
B.S., 1955 (Indiana State College); M.A., 1960, Ph.D., 1963 (Pennsylvania State)

DWIGHT LANIER CLARK (1957), *Associate Professor of Oral Surgery*
D.D.S., 1954 (North Carolina)

[25]HENRY TOOLE CLARK, JR. (1950), *Administrator of the Division of Health Affairs*
A.B., 1937 (North Carolina); M.D., 1944 (Rochester)

MARY GILL CLARKE (1956), *Professor of Psychology in Departments of Psychiatry and Psychology*
A.B., 1940 (Woman's College, North Carolina); M.A., 1943 (Minnesota); Ph.D., 1951 (Duke)

WILLIAM M. CLARKE (1966), *Clinical Instructor in Pediatrics*
B.A., 1954, M.A., 1957 (Duke); M.D., 1961 (North Carolina)

[26]JOHN STROTHER CLAYTON (1951), *Associate Professor of Radio, Television, and Motion Pictures*
A.B., 1949, M.A., 1955 (North Carolina); M.F.A., 1959, D.F.A., 1960 (Yale)

[27]C. FRANCES CLEARY (1959), *Director of Recreation in Psychiatry and Lecturer on Hospital Curriculum in Sociology and Anthropology*
A.B., 1938 (College of St. Rose, Albany, New York); M.A., 1958 (North Carolina)

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24. Resigned August 30, 1966.
25. Resigned September 30, 1966.
26. Leave extension September 1, 1966 through September 1, 1967.
27. Resigned July 15, 1966.

BARBARA HENRY CLEAVELAND (1963), *Lecturer in Social Work*
A.B., 1940 (Duke); M.S.W., 1961 (North Carolina)

FREDERIC NEILL CLEAVELAND (1951), *Professor of Political Science and Research Professor in the Institute for Research in Social Science*
B.A., 1937, M.A., 1942 (Duke); M.A., 1950, Ph.D., 1951 (Princeton)

GEORGE MONTGOMERY CLELAND (1966), *Instructor in Public Law and Government*
LL.B., 1965 (Tulane)

GEORGE LINDSEY CLEVELAND, JR. (1965), *Research Associate in Epidemiology*
B.S., 1961 (Clemson)

GORDON BAYLOR CLEVELAND (1952), *Associate Professor of Political Science and Adviser in the College of Arts and Sciences*
B.S., 1938 (Davidson); M.S., 1947 (Alabama Polytechnic Institute); Ph.D., 1957 (North Carolina)

DONALD FRANCIS CLIFFORD, JR. (1964), *Assistant Professor of Law*
A.B., 1957 (Catholic University of America); LL.B., 1963 (Colorado)

NORA FRANCES CLINE (1961), *Associate Professor of Mental Health*
R.N.; B.S., 1945 (Duquesne); M.L., 1948 (Pittsburgh)

FRANK THEODORE CLOAK, JR. (1965), *Assistant Professor of Anthropology and Research Associate in the Institute for Research in Social Science*
A.B., 1955, M.A., 1961, Ph.D., 1966 (Wisconsin)

WALLACE ALEXANDER CLYDE, JR. (1961), *Assistant Professor of Pediatrics*
B.A., 1951, M.D., 1954 (Vanderbilt)

ALBERT COATES (1923), *Professor of Law*
A.B., 1918 (North Carolina); LL.B., 1923 (Harvard); LL.D. (Wake Forest)

CARL MURRAY COCHRANE (1958), *Associate Professor of Psychology in Department of Psychiatry*
B.A., 1950 (Guilford); Ph.D., 1959 (North Carolina)

GEORGE HARRY COCOLAS (1958), *Associate Professor of Medicinal Chemistry*
B.S. in Phar., 1952 (Connecticut); Ph.D., 1956 (North Carolina)

JOFFRE LANNING COE (1948), *Professor of Anthropology and Director of the Research Laboratories of Anthropology*
A.B., 1944 (North Carolina); M.A., 1948, Ph.D., 1959 (Michigan)

FREDERIC EDWARD COENEN (1931), *Professor of German*
A.B., 1928, A.M., 1930 (Arizona); Ph.D., 1936 (North Carolina)

RALPH DONALD COFFEY (1966), *Clinical Assistant Professor of Preventive Dentistry and Dental Science*
D.D.S., 1931 (North Carolina)

BETTY EDENFIELD COGSWELL (1960), *Assistant Professor of Preventive Medicine (Rehabilitation), and Rehabilitation Training Field Director, Social Research Section*
A.B., 1952 (Goucher); M.S., 1958 (North Carolina State); Ph.D., 1965 (North Carolina)

AVERY BERLOW COHAN (1957), *Professor of Finance and Chairman of Graduate Studies in Business Administration*[28]
A.B., 1934 (Cornell); A.M., 1942, Ph.D., 1959 (Columbia)

MORRIS H. COHEN (1965), *Associate Professor of Social Work*
B.A., 1951 (Roosevelt); M.A., 1953 (Sarah Lawrence); M.S., 1964 (Western Reserve)

SIDNEY COHN (1964), *Lecturer in Urban Design*
B.Arch., 1950, M.U.P., 1962 (Washington)

JAMES LOGAN COKE (1961), *Assistant Professor of Chemistry*
B.S., 1956 (State College of Washington); Ph.D., 1961 (Wayne State)

ROBERT ERVIN COKER (1922), *Kenan Professor of Zoology (1940), Emeritus (1949)*
S.B., 1896, S.M., 1897 (North Carolina); Ph.D., 1906 (Johns Hopkins); Sc.D. (South Carolina); LL.D. (North Carolina)

[29]ROBERT ERVIN COKER, JR. (1956), *Professor and Head of Department of Public Health Administration*
A.B., 1932 (North Carolina); M.D., 1940, M.P.H., 1947 (Johns Hopkins)

JAMES WASHINGTON LEVERETT COLE (1964), *Research Associate in Biostatistics*
B.A., 1960 (Dartmouth); M.A., 1962 (Yale)

RICHARD F. COLE (1966), *Instructor of Sanitary Engineering in the Department of Environmental Sciences and Engineering*
B.S., 1959 (Drexel Institute of Technology); M.S., 1961 (Massachusetts Institute of Technology)

28. Except M.B.A. Program.
29. Died July 31, 1966.

ELWOOD BROGDEN COLEY (1955), *Clinical Assistant Professor of Pediatrics*
B.S., 1949 (North Carolina); M.D., 1952 (Pennsylvania)
FRANCIS NASH COLLIER, JR. (1957), *Associate Professor of Chemistry*
B.S., 1942 (Howard College); M.S., 1949, Ph.D., 1957 (Ohio State)
EDWARD MCDANIEL COLLINS, JR. (1965), *Assistant Professor of English*
B.A., 1952 (Millsaps); B.D., 1957 (Emory); M.A., 1958 (Iowa); Ph.D., 1965 (Ohio)
JAMES PADDOCK COLLMAN (1958), *Professor of Chemistry*
B.S., 1954, M.S., 1956 (Nebraska); Ph.D., 1958 (Illinois)
FERNANDO COLON (1965), *Assistant Professor of Psychology in the Departments of Psychology and Psychiatry*
B.A., 1957 (Blackburn College); M.A., 1960, Ph.D., 1963 (Michigan State)
[30]GEORGE ALLEN COLTRANE (1963), *Assistant Professor of Public Law and Government and Assistant Director of the Institute of Government*
A.B., 1956, LL.B., 1961 (Duke)
ROBERT EDWARD COMAS (1966), *Instructor of Education*
A.B., 1956 (Mercer); M.Ed., 1961 (Duke)
WILLIAM GUSTAVUS CONLEY III (1966), *Clinical Instructor in Pediatrics*
A.B., 1956, B.S., 1958 (West Virginia); M.D., 1960 (Medical College of Virginia)
ELIZABETH ANNE COOK (1966), *Research Associate in Maternal and Child Health*
B.S., 1960 (Vanderbilt); M.P.H., 1966 (North Carolina)
[31]HOWARD COOK (1964), *Assistant Professor of Mathematics*
B.S., 1956 (Clemson); Ph.D., 1962 (Texas)
HOWARD LAWRENCE COOK (1965), *Major, United State Marine Corps; Assistant Professor of Naval Science*
B.A., 1952 (Oklahoma)
ALBERT DERWIN COOPER (1940), *Clinical Associate Professor of Medicine*
M.D., 1931, A.B., 1932 (George Washington)
GEORGE MARION COOPER (1956), *Clinical Instructor in Surgery*
B.A., 1941 (North Carolina); M.D., 1944 (Virginia)
[32]DEREK BRYAN COPLEY (1964), *Research Associate in Chemistry*
B.Sc., 1961, Ph.D., 1964 (Manchester)
GORDON LLOYD COPPOC (1966), *Instructor in Pharmacology*
B.S., 1961, D.V.M., 1963 (Kansas State)
JOAN CLAIRE CORNONI (1966), *Instructor in Epidemiology*
B.A., 1953 (Mary Washington); M.P.H., 1962 (North Carolina)
[33]OLIVER KELLY CORNWELL (1935), *Professor of Physical Education*
A.B., 1921 (Wittenberg); M.A., 1929 (Ohio State); Ed.D. (Catawba)
WILLIAM WALTER CORT (1953), *Research Professor in Parasitology, Emeritus (1959)*
A.B., 1909 (Colorado College); A.M., 1911, Ph.D., 1914 (Illinois); Sc.D. (Hon.) (North Carolina; Colorado College)
DONALD PAUL COSTELLO (1935), *Kenan Professor of Zoology (1949)*
A.B., 1930 (College of the City of Detroit); Ph.D., 1934 (Pennsylvania)
HAROLD P. COSTON (1966), *Instructor in Hospital Administration*
B.S., 1946 (Wake Forest); M.P.H., 1952 (Johns Hopkins)
LYMAN ATKINSON COTTEN (1941), *Professor of English*
A.B., 1936 (North Carolina); Ph.D., 1941 (Yale)
JOHN NATHANIEL COUCH (1917), *Kenan Professor of Botany (1945)*
A.B., 1919, A.M. 1922, Ph.D., 1924 (North Carolina); D.Sc. (Hon.) (Catawba; Duke)
ELIZABETH JACKSON COULTER (1965), *Associate Professor of Biostatistics*
A.B., 1941 (Swarthmore); A.M., 1946, Ph.D., 1948 (Radcliffe)
NORMAN ARTHUR COULTER, JR. (1965), *Associate Professor of Surgery*
B.S., 1941 (Virginia Polytechnic Institute); M.D., 1950 (Harvard)
DUDLEY JOHNSTONE COWDEN (1935), *Professor of Economic Statistics*
A.B., 1919 (Grinnell); A.M., 1922 (Chicago); Ph.D., 1931 (Columbia)
PORTER COWLES (1933), *Assistant Director of The University of North Carolina Press*
A.B., 1933 (North Carolina)
JOHN GOODWIN CRADDOCK (1966), *Clinical Instructor in Medicine*
A.B., 1950, M.D., 1954 (Duke)
ERNEST CRAIGE (1952), *Professor of Medicine*
A.B., 1939 (North Carolina); M.D., 1943 (Harvard)

30. Resigned June 6, 1966.
31. Resigned August 31, 1966.
32. Resigned September 30, 1966.
33. Retired July 1, 1966; Appointed consultant in Physical Education July 1, 1966.

ELLIOT M. CRAMER (1966), *Associate Professor of Psychology*
B.S., 1955 (Massachusetts Institute of Technology); M.A., 1957, Ph.D., 1960 (Johns Hopkins)

MILES RICHARD CRAMER (1961), *Assistant Professor of Sociology*
A.B., 1957 (Michigan); M.A., 1960, Ph.D., 1962 (Harvard)

CLIFTON EARL CRANDELL (1955), *Associate Professor of Oral Diagnosis and Treatment Planning*
B.S., 1949 (East Carolina Teachers College); D.D.S., 1953 (Medical College of Virginia); M.S., 1961 (Pennsylvania); M.Ed., 1961 (Duke)

GEORGE LEVERING CRANE (1965), *Clinical Instructor in Medicine*
A.B., 1935 (North Carolina); M.D., 1940 (Cornell)

GEORGE WILLIAM CRANE, JR. (1952), *Clinical Associate Professor of Medicine (Dermatology)*
M.D., 1945 (Northwestern)

MARY LOUISE CRANFORD (1965), *Instructor in Physical Education*
B.S., 1964 (Western Carolina); M.Ed., 1965 (North Carolina)

SARAH CRANFORD (1965), *Research Associate in Biostatistics*
A.B., 1953 (Brown)

[34]EUGENE BENSON CRAWFORD, JR. (1951), *Assistant Professor of Hospital Administration and Director of North Carolina Memorial Hospital*
S.B., 1948 (North Carolina)

[35]JAMES HOMER CRAWFORD, JR. (1967), *Professor of Physics*
A.B., 1943 (Wofford); Ph.D., 1949 (North Carolina)

JAMES JOSEPH CRAWFORD (1960) *Assistant Professor of Endodontics and Bacteriology*
B.A., 1953, M.A., 1954 (Missouri); Ph.D., 1962 (North Carolina)

CLYDE ALLAN CREGO (1966), *Assistant Professor of Psychology in the Departments of Psychology and Psychiatry*
B.A., 1958 (Montana); Ph.D., 1966 (Michigan State)

[36]ADRIEN EDGARD HENRI CREMERS (1964), *Research Associate in Chemistry*
Ph.D., 1964 (Institute of Agronomy of the University of Louvain)

HORACE DOWNS CROCKFORD (1921), *Professor of Chemistry*
B.S., 1920 (North Carolina State); S.M., 1923, Ph.D., 1926 (North Carolina)

WILLIAM JAMES CROMARTIE (1951), *Professor of Bacteriology and Medicine and Director of the Bacteriological and Serological Laboratories*
M.D., 1937 (Emory)

ELSIE DEANA CROSS (1965), *Assistant Professor of Nursing*
Dip. in Nursing, 1956 (Grace Hospital School of Nursing, Morganton); R.N.; B.S.N., 1962 (North Carolina); M.N., 1965 (Emory)

MARVIN JAY CUMMINS (1965), *Instructor in Sociology*
A.B., 1958 (Colorado)

[36a]DONALD RUSK CURREY (1964), *Instructor of Geography*
B.S., 1957, M.A., 1959 (Wyoming)

THOMAS EDWIN CURTIS (1954), *Associate Professor of Psychiatry*
M.D., 1950 (Duke)

DOUGLAS CUTLER (1965), *Research Associate in Physics*
B.Sc., 1957, Ph.D., 1960 (London)

WILLIAM GRANT DAHLSTROM (1953), *Professor of Psychology in Department of Psychology, Clinical Professor of Psychology in Department of Psychiatry, and Research Professor in the Institute for Research in Social Science*
B.A., 1944, Ph.D., 1949 (Minnesota)

ROBERT THEODORE DALAND (1963), *Associate Professor of Political Science and Director of the Master of Public Administration Program*
B.A., 1942 (Milton College); M.A., 1947, Ph.D., 1952 (Wisconsin)

FREDERIC GILBERT DALLDORF (1965), *Assistant Professor of Pathology*
B.A., 1954 (Bowdoin); M.D., 1958 (Cornell)

RUTH DALRYMPLE (1951), *Professor of Nursing and Assistant Dean of the School of Nursing*
B.S., 1937 (Muskingum); M.N.; R.N., 1940, M.S., 1952 (Western Reserve); M.P.H., 1961, D.P.H., 1966 (Pittsburgh)

JOHN PERCY DALZELL (1937), *Professor of Law*
A.B., 1922, LL.B., 1924 (Minnesota)

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34. Resigned October 24, 1966.
35. Appointment effective, February 1, 1967.
36. Resigned May 31, 1966.
36a. Resigned December 31, 1966.

CHARLES E. DAMERON III (1965), *Assistant Professor of Law and Assistant Dean*
A.B., 1960, LL.B., 1961 (North Carolina)
GEORGE BERNARD DANIEL (1957), *Associate Professor of French*
A.B., 1949, M.A., 1950 (Emory); Diplôme de Litt. Cont., 1953 (Sorbonne); Ph.D., 1959 (North Carolina)
THOMAS BRANTLEY DANIEL (1965), *Clinical Instructor in Surgery*
B.S., 1938 (Davidson); M.D., 1943 (Bowman Gray)
WILLIAM JOHN DANIEL (1938), *Professor of Psychology*
A.B., 1938 (Antioch College); Ph.D., 1942 (North Carolina)
WAYNE ALLEN DANIELSON (1959), *Professor of Journalism and Dean of the School of Journalism*
B.A., 1952 (Iowa); M.A., 1953, Ph.D., 1957 (Stanford)
ERWIN MARTIN DANZIGER (1965), *Lecturer in Information Science*
B.S., 1951, M.B.A., 1954 (North Carolina)
JOHN FREDERICK DASHIELL (1919), *Kenan Professor of Psychology (1935), Emeritus (1958)*
B.S., 1908, B.Litt., 1909 (Evansville College); M.A., 1910, Ph.D., 1913 (Columbia); Sc.D. 1949 (Evansville College)
HERBERT ARON DAVID (1964), *Professor of Biostatistics*
B.Sc., 1947 (Sydney); Ph.D., 1953 (London)
[37]JANIS HAZELTON DAVID (1958), *Associate Professor of Nursing*
Diploma in Nursing, 1937 (Flower-Fifth Avenue Hospital, New York); R.N.; B.S., 1947 M.A., 1958 (New York University)
JAMES HUBERT DAVIDSON (1965), *Clinical Instructor in Medicine*
B.A., 1942 (Washington and Lee); M.D., 1945 (Virginia)
[37a]BRUCE W. DAVIS (1964), *Research Associate in Chemistry*
B.S., 1960, M.S., 1962 (Southern California); Ph.D., 1964 (California, Riverside)
DAVID A. DAVIS (1952), *Professor of Surgery (Anesthesiology)*
M.D., 1941 (Vanderbilt)
HARRY ELLERBE DAVIS (1931), *Professor of Dramatic Art and Director of The Carolina Playmakers*
A.B., 1927 (South Carolina); M.A., 1940 (Columbia); D.F.A. (Catawba)
JAMES EVANS DAVIS (1954), *Clinical Assistant Professor of Surgery*
A.B., 1940 (North Carolina); M.D., 1943 (Pennsylvania)
LAMBERT DAVIS (1948), *Director of The University of North Carolina Press*
B.A., 1925, M.A., 1926 (Virginia)
MARTHA CLYDE DAVIS (1962), *Assistant Professor of Nursing*
Dip. in Nursing, 1950 (Carolina General Hospital School of Nursing, Wilson); R.N B.S.N.Ed., 1957 (Duke); M.S., 1962 (North Carolina)
MORRIS SCHUYLER DAVIS (1966), *President Triangle Universities Computation Cent and Adjunct Professor of Physics and Information Science*
B.A., 1946 (Brooklyn College); M.A., 1947 (Missouri); Ph.D., 1950 (Yale)
[38]ROBERT LLOYD DAVIS (1960), *Associate Professor of Mathematics*
B.S., 1949, M.S., 1951 (Chicago); Ph.D., 1957 (Michigan)
RON WILSON DAVIS (1967), *Associate Professor of Education*
B.A., M.A., 1947 (Reed College); Ed.D., 1952 (Columbia University)
LEONARD H. DAWSON (1966), *Instructor of Public Health*
A.B., 1960 (Kentucky); M.S.P.H., 1963 (North Carolina)
RAYMOND HOWARD DAWSON (1960), *Associate Professor of Political Science*
B.A., 1949 (College of the Ozarks); M.A., 1951 (Vanderbilt); Ph.D., 1958 (No Carolina)
NETTIE LEE DAY (1962), *Adjunct Associate Professor of Public Health Administr tion*
B.S.H.E., 1941 (Woman's College, North Carolina); M.P.H., 1948 (North Carolina)
DEWITT CLINTON DEARBORN (1963), *Professor of Business Administration*
A.B., 1940 (Gettysburg College); M.B.A., 1948, D.C.S., 1958 (Harvard)
HENRY HURSELL DEARMAN (1962), *Assistant Professor of Chemistry*
B.S., 1956 (North Carolina); Ph.D., 1960 (California Institute of Technology)
KLAAS DE GROOT (1965), *Research Associate in Chemistry*
Ph.D., 1965 (The Netherlands)

37. Resigned June 30, 1966.
37a. Resigned August 5, 1966.
38. Absent on leave, 1966-1967.

NANCY T. DE GRUMMOND (1966), *Instructor in Art*
A.B., 1962 (North Carolina)

WILL WHITE DE GRUMMOND (1965), *Instructor in Classics*
A.B., 1956, A.M., 1959 (Louisiana State)

WILLIAM WELLESLEY DEMERITT (1951), *Professor of Pedodontics and Assistant Dean of the School of Dentistry*
D.D.S., 1938 (Emory)

OLCOTT H. DEMING (1966), *Visiting Professor of Political Science, Senior State Department Fellow-in-Residence*
B.A., 1935 (Rollins)

RALPH GARY DENNIS (1966), *Instructor in Radio, Television, and Motion Pictures*
B.A., 1960, M.A., 1963 (North Carolina)

FLOYD W. DENNY, JR. (1960), *Professor of Pediatrics*
B.S., 1944 (Wofford); M.D., 1946 (Vanderbilt)

INGEBORG B. DENT (1964), *Instructor of German*
European Equivalent A.B. (University of Cologne)

HARRY LEWIS DERR, JR. (1966), *Clinical Assistant Professor of Social Work in Psychiatry and Assistant Professor of Social Work in Allied Education*
B.S., 1953, M.S.S.W., 1957 (Richmond Professional Institute of the College of William and Mary)

JAYANT VINAYAK DESHPANDE (1966), *Research Associate in Statistics*
B.Sc., 1960 (Patna); M.Sc., 1962, Ph.D., 1965 (Poona)

ROBERT BIGELOW DESJARDINS (1964), *Assistant Professor of Business Administration*
B.S., 1949 (St. Louis); M.S., 1954 (Florida State); Ph.D., 1965 (North Carolina)

WILLIAM JOSEPH DESUA (1963), *Associate Professor of Italian and Comparative Literature*
B.A., 1952, M.Litt., 1955 (Pittsburgh); Ph.D., 1963 (Michigan)

EARL EDWARD DEUBLER, JR. (1956-61; 1963), *Associate Professor in the Institute of Marine Sciences*
B.S., 1950 (Moravian College); Ph.D., 1955 (Cornell)

JAMES ASHTON DEVEREUX, S. J. (1966), *Assistant Professor of English*
B.A., 1951, M.A., 1954 (Woodstock College); Licence en Théologie, 1959 (Facultés de la Companie de Jésu à Lourain); Ph.D., 1964 (North Carolina)

LOUIS DEVORSEY, JR. (1964), *Assistant Professor of Geography*
B.A., 1952 (Montclair State); M.A., 1954 (Indiana); Ph.D., 1965 (London)

JOSEPH LEO DE WALT (1963), *Clinical Assistant Professor of Medicine, Associate University Physician*
B.A., 1950, M.D., 1954 (North Carolina)

[39]BRYCE SELIGMAN DEWITT (1956), *Agnew Hunter Bahnson, Jr. Professor of Physics (1965) and Director of the Institute of Field Physics*
S.B., 1943, M.A., 1947, Ph.D., 1950 (Harvard)

CÉCILE MORETTE DEWITT (1956), *Visiting Research Professor of Physics*
Licence-es-sciences, 1943 (University of Caen, France); Diplôme d'Etudes Supérieures, 1944, Doctorat d'Etat, 1947 (University of Paris, France)

GRIGGS CAMERON DICKSON (1964), *Clinical Assistant Professor of Pediatrics*
B.S., 1952, M.D., 1955 (North Carolina)

[40]HAROLD E. DICKSON (1965), *Visiting Professor of Art*
B.S., 1922 (Pennsylvania); M.A., 1927, Ph.D., 1941 (Harvard)

JAMES WESLEY DIMMICK (1955-58; 1959), *Instructor in Modern Civilization*
A.B., 1953, M.A., 1954 (Florida)

JAMES ROBERT DINEEN (1964), *Clinical Instructor in Surgery*
M.D., 1945 (Rochester)

ANDREW DERART DIXON (1963), *Professor of Dental Science and Professor of Anatomy and Assistant Dean and Coordinator of Research*
L.D.S., 1948, B.D.S., 1949, M.D.S., 1953, B.Sc., 1954 (Queen's University, Belfast, Ireland); Ph.D., 1958 (University of Manchester, England); D.Sc., 1965 (Queen's University, Belfast, Ireland)

JOHN WESLEY DIXON, JR. (1963), *Associate Professor of Religion and Art*
A.B., 1941 (Emory and Henry College); Ph.D., 1953 (Chicago)

JAMES TALMADGE DOBBINS (1918), *Professor of Chemistry, Emeritus (1960)*
A.B., 1911, A.M., 1912, Ph.D., 1914 (North Carolina)

39. Absent on leave, fall semester, 1966-1967.
40. Appointment for spring semester, 1967.

[41]DAN BYRON DOBBS (1961), *Associate Professor of Law*
B.A., 1956, LL.B., 1956 (Arkansas); LL.M., 1966 (Illinois)
DAVID PHILLIP DOBSON (1955), *Professor of Prosthodontics*
D.D.S., 1941, M.S., 1942 (State University of Iowa)
EDWARD FREDERICK DOEHNE III (1965), *Instructor in Psychiatry*
A.B., 1955 (Oberlin College); M.D., 1959 (Western Reserve)
MARGARET BAGGETT DOLAN (1950), *Professor of Public Health Nursing*
Dip., 1935 (School of Nursing, Georgetown University); R.N.; B.S.P.H.N., 1944 (North Carolina); M.A., 1953 (Columbia)
A. J. DOMNAS (1965), *Assistant Professor of Botany*
B.Sc.A., 1950 (Laval University); M.Sc., 1951 (Montreal); Ph.D., 1956 (Illinois Institute of Technology)
[42]JAMES FORD DONNELLY (1955), *Clinical Associate Professor of Obstetrics and Gynecology and Visiting Associate Professor of Maternal and Child Health*
B.A., 1935 (Harvard); M.D., 1939 (Chicago)
THOMAS GEORGE DONNELLY (1966), *Associate Professor of Biostatistics*
B.A., 1947, M.A., 1948 (Queen's University); Ph.D., 1957 (North Carolina)
DENNIS GEORGE DONOVAN (1965), *Assistant Professor of English*
B.S., 1959 (Illinois State); A.M., 1961, Ph.D., 1965 (Illinois)
GERALD MADISON DONOVAN (1966), *Clinical Instructor in Psychiatry*
B.A., 1952, M.D., 1960 (Virginia)
WILLIAM GERALD DOOLEY (1967), *Head Football Coach*
B.S., 1956 (Mississippi State)
ELINOR DAMON DORRIES (1963), *Assistant Professor of Nursing*
Dip. in Nursing, 1947 (Mary Hitchcock Memorial Hospital, Hanover, New Hampshire); R.N.; B.A., 1951 (San Francisco State College); B.S., 1956 (California); M.N., 1961 (Washington)
[43]RICHARD MARTIN DOUGHERTY (1963), *Chief, Acquisitions Department, University Library*
B.S., 1959 (Purdue); M.L.S., 1961, Ph.D., 1963 (Rutgers)
GEORGE WARREN DOUGLAS (1965), *Lecturer in Economics*
B.A., 1960, M.A., 1963 (Yale)
ELISHA PEAIRS DOUGLASS (1952), *Professor of History*
A.B., 1939 (Princeton); M.S., 1941 (Columbia); Ph.D., 1949 (Yale)
WALTER R. DOWDLE (1965), *Adjunct Associate Professor of Parasitology (Field)*
B.S., 1955, M.S., 1957 (Alabama); Ph.D., 1960 (Maryland)
HARRISON MAX DRAKE (1965), *Research Associate in Epidemiology*
A.B., 1954 (San Diego College); M.A., 1961 (North Carolina)
ROBERT EDWARD DRASS, JR. (1967), *Assistant Professor of Sociology*
A.B., 1959 (Delaware); Ph.D., 1966 (Northwestern)
FRANK MARION DUFFEY (1946), *Professor of Spanish and Associate Dean of the College of Arts and Sciences*
A.B., 1938 (Miami University); A.M., 1940, Ph.D., 1950 (North Carolina)
GORDON SHELTON DUGGER (1954), *Professor of Surgery (Neuro-Surgery)*
A.B., 1941 (North Carolina); M.D., 1945 (Johns Hopkins)
ROBERT B. DUKE (1965), *Assistant Professor of Psychology in Psychiatry*
B.A., 1955 (Carson-Newman); B.D., 1958 (Southern Baptist Seminary); M.A., 1959, Ph.D. 1963 (George Peabody College)
WILLIAM W. DUKE (1965), *Clinical Instructor in Medicine*
B.S., 1957 (Davidson); M.D., 1961 (Pennsylvania)
RUFUS SHELDON DUNHAM, JR. (1965), *Instructor in German*
A.B., 1956 (North Carolina)
DAVID EVAN DUNN (1963), *Assistant Professor of Geology*
B.S., 1957, M.S., 1959 (Southern Methodist); Ph.D., 1964 (Texas)
PATRICK F. EAREY (1957), *Assistant Professor of Physical Education and Head Swimming Coach*
A.B., 1951, M.A., 1952, Ph.D., 1962 (North Carolina)
ZANE EMERSON EARGLE (1966), *Associate Professor and Associate Dean of the School of Education*
A.B., 1957, M.Ed., 1959, Ph.D., 1964 (North Carolina)

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41. Absent on leave, 1966-1967.
42. Resigned June 30, 1966.
43. Resigned January 31, 1966.

ETHEL MCKEE EARL (1967), *Assistant Teaching Associate in Preventive Dentistry and Dental Science*
R.N., 1941 (Hackensack Hospital School of Nursing); C.D.A., 1960 (Daytona Beach, Florida)

ELEANOR BEAMER EASLEY (1953), *Clinical Assistant Professor of Obstetrics and Gynecology*
B.A., 1928 (Idaho); M.A., 1929 (Iowa); M.D., 1934 (Duke)

WILLIAM EWART EASTERLING (1964), *Assistant Professor of Obstetrics and Gynecology*
A.B., 1952 (Duke); M.D., 1956 (North Carolina)

WILLIAM FARNUM EASTMAN (1966), *Assistant Professor of Marriage Counseling, Department of Psychiatry*
B.S., 1955 (Rutgers); B.D., 1959 (Yale); M.S., 1960, Ed.D., 1964 (Pennsylvania); M.S.W., 1966 (Maryland)

MYRL LUA-FRANCES EBERT (1952), *Associate Professor of Librarianship and Librarian, Division of Health Affairs Library*
B.S., 1943, B.S. in L.S., 1945 (Peabody); M.S., 1951 (Columbia)

STACY KNIGHT EBERT (1953), *Lecturer in Education*
B.A., 1939 (State Teachers College, Florence, Alabama); M.A., 1950 (Peabody)

FREDERICK MONROE ECKEL (1966), *Instructor in Hospital Pharmacy*
B.S., 1961 (Philadelphia College of Pharmacy and Science); M.S., 1963 (Ohio State)

DAVID ALAN ECKERMAN (1966), *Assistant Professor of Psychology*
A.B., 1961 (Hamilton College); M.A., 1963, Ph.D., 1966 (Columbia)

[44]BRUCE KENT ECKLAND (1964), *Assistant Professor of Sociology*
B.S., 1957, M.A., 1960, Ph.D., 1964 (Illinois)

CHARLES ERNEST EDGE (1958), *Associate Professor of English*
A.B., 1947, M.A., 1948 (North Carolina); Ph.D., 1958 (Duke)

W. WILBERT EDGERTON (1965), *Associate Professor of Psychology in Departments of Psychiatry and Psychology*
B.S., 1940 (Guilford); M.A., 1947 (Florida); Ph.D., 1953 (Duke)

FLOYD HARRIS EDMISTER (1922), *Professor of Chemistry, Emeritus (1952)*
B.S., 1912 (Syracuse); M.S., 1913 (Louisiana State); Ph.D., 1918 (Syracuse)

CLIFTON EARL EDMONDSON (1964), *Assistant Professor of History and Modern Civilization*
A.B., 1959 (Mississippi College); M.A., 1962, Ph.D., (Duke)

GEORGE SADLER EDWARDS (1962), *Clinical Instructor in Surgery (Orthopedics)*
B.S., 1950 (Davidson); M.D., 1957 (North Carolina)

[45]JOHN DILLARD EDWARDS (1960), *Assistant Professor of Accounting*
B.S., 1949 (Louisiana Polytechnic Institute); M.B.A., 1957 (Louisiana State); C.P.A. (Louisiana State); Ph.D., 1965 (Alabama)

COURTNEY D. EGERTON (1965), *Clinical Assistant Professor of Obstetrics-Gynecology*
M.D., 1946 (Louisville)

WILLIAM JULIUS EICHMAN, JR. (1965), *Associate Professor of Psychology*
M.A., 1953, Ph.D., 1955 (Iowa)

REGINA CECYLIA ELANDT-JOHNSON (1964), *Associate Professor of Biostatistics*
M.S., 1946 (University of Poznan, Poznan, Poland); Ph.D., 1955 (Poznan Agricultural College)

NORMAN ELLSWORTH ELIASON (1946), *Kenan Professor of English (1966)*
A.B., 1927 (Luther College); M.A., 1931 (Iowa); Ph.D., 1936 (Johns Hopkins)

DESMOND PETER ELLIS (1966), *Instructor in Sociology*
A.B., 1961 (University of Leicester, England); M.A., 1964 (McMaster University, Ontario, Canada)

FRED WILSON ELLIS (1944), *Professor of Pharmacology*
B.S., 1936 (South Carolina); M.S., 1938 (Florida); Ph.D., 1941 (Maryland); M.D., 1951 (Duke)

ROBERT CLAUDE ELSTON (1964), *Associate Professor of Biostatistics*
B.A., 1955, Dip. Ag., 1956, M.A., 1957 (Cambridge); Ph.D., 1959 (Cornell)

STEPHEN ALBERT EMERY (1928), *Professor of Philosophy, Emeritus (1963)*
A.B., 1923, Ph.D., 1928 (Cornell)

WILLIAM LOUIS ENGELS (1937), *Professor of Zoology*
B.S., 1930 (Notre Dame); Ph.D., 1937 (California)

MARTIN ENGERT (1965), *Assistant Professor of Mathematics*
B.A., 1960 (Carleton College); M.S., 1962, Ph.D., 1965 (Stanford)

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44. Absent on leave, September 1, 1966 through September 1, 1967.
45. Resigned August 31, 1966.

ALFRED GARVIN ENGSTROM (1936), *Alumni Distinguished Professor of French (1961)*
A.B., 1933, A.M., 1935, Ph.D., 1941 (North Carolina)

ELLA GRAY W. ENNIS (1965), *Instructor in Physiology*
A.B., 1945 (Woman's College, North Carolina); M.A., 1948, Ph.D., 1964 (North Carolina)

PRESTON HERSCHEL EPPS (1938), *Kenan Professor of Greek (1955), Emeritus (1960)*
A.B., 1915, A.M., 1917 (North Carolina); Ph.D., 1928 (Chicago)

CHARLES PERRY ERICKSON (1931), *Director of Athletics*
S.B. in Civ. Eng'g., 1931 (North Carolina)

MARILYN TARASIEWICZ ERICKSON (1961), *Assistant Professor of Psychology in the Departments of Psychiatry, Pediatrics, and Psychology*
A.B., 1957 (Pembroke); M.A., 1959 (Brown); Ph.D., 1961 (Washington)

JAMES W. ESLER, JR. (1965), *Instructor in Surgery (Anesthesiology)*
B.A., 1956 (Virginia Military Institute); M.D., 1960 (Pennsylvania)

SALVATORE R. ESPOSITO (1961), *Lecturer in Physical Education*
B.S., 1955 (West Chester State College); M.Ed., 1961 (North Carolina)

[46]GEORGE HYNDMAN ESSER, JR. (1948), *Lecturer in Planning*
B.S., 1942 (Virginia Military Institute); LL.B., 1948 (Harvard)

HILLIARD D. ESTES (1964), *Visiting Associate Professor of Epidemiology*
B.S., 1940 (Kansas); M.D., 1950 (Harvard Medical School); M.P.H., 1955 (Harvard School of Public Health)

VALLIN DAYTON ESTES, JR. (1963), *Instructor in German*
A.B., 1954, M.A., 1964 (North Carolina)

JAMES EDWARD ETHERIDGE, JR. (1965), *Assistant Professor of Pediatrics and Neurology*
B.A., 1951, M.D., 1955 (Virginia)

JOHN LAWRENCE ETHERINGTON (1961), *Clinical Assistant Professor of Surgery (Ophthalmology)*
M.D., C.M., 1936 (Queen's University, Canada)

MARK FOSTER ETHRIDGE (1964), *Lecturer in Journalism*
Litt.D., (Mercer; Louisville; Ohio Wesleyan); LL.D. (Tulane; Harvard; Kentucky); L.H.D (Berea)

HARRIS LANE EVANS (1964), *Clinical Instructor in Psychiatry*
B.S., 1952, M.D., 1955 (North Carolina)

MARVIN RATLEDGE EVANS (1952), *Professor of Oral Diagnosis and Treatment Planning*
D.D.S., 1936 (Maryland); M.S., 1955 (Pennsylvania)

JOHN ALEXANDER EWING (1954), *Professor of Psychiatry*
M.B., Ch.B., 1946, M.D., 1954 (Edinburgh, Scotland); D.P.M., 1950 (London)

WILLIAM HOWELL EWING (1963), *Adjunct Associate Professor of Parasitology (Field*
A.B., 1937, M.A., 1939 (Washington and Jefferson College); Ph.D., 1948 (Cornell)

JOHN DOUGLAS EYRE (1957), *Professor of Geography*
A.B., 1945, M.A., 1947, Ph.D., 1951 (Michigan)

WILLIAM EARL FAHY (1952), *Professor in the Institute of Marine Sciences*
B.S., 1946 (Cornell); Ph.D., 1951 (Rochester)

RUTH FALK (1963), *Assistant Professor of Psychology in the Departments of Psychiatry and Psychology*
B.A., 1953 (Melbourne); Ph.D., 1963 (Michigan)

WERNER DAVID FALK (1963), *James G. Hanes Professor of the Humanities in Philosophy*
Ph.D., 1931 (Heidelberg); M.A., 1938 (Oxford); M.A. (Hon.), 1955 (Melbourne)

WALTER ROBERT FALLAW, JR. (1960), *Assistant Professor of History and Modern Civilization*
A.B., 1957 (Duke); M.A., 1959, Ph.D., 1966 (Princeton)

HAROLD JOSEPH FALLON (1960-61; 1963), *Assistant Professor of Medicine and Biochemistry*
B.A., 1953, M.D., 1957 (Yale)

THOMAS WOHLSEN FARMER (1952), *Professor of Neurological Medicine*
A.B., 1935, M.D., 1941 (Harvard); M.A., 1937 (Duke)

PRESTON COOKE FARRAR (1960), *Professor of Education, Emeritus (1945)*
A.B., 1891 (Washington and Jefferson); M.A., 1904 (Columbia)

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46. Effective spring semester, 1967.

ROBERT GILBERT FAUST (1963), *Assistant Professor of Physiology*
A.B., 1953 (New York University); M.S., 1957 (Southern California); Ph.D., 1960 (Princeton)

[47]PHILIPP P. FEHL (1963), *Professor of Art History*
B.A., 1947, M.A., 1948 (Stanford); Ph.D., 1963 (Chicago)

GEORGE BURTON FERGUSON (1953), *Clinical Consultant in Surgery (Otolaryngology)*
M.D., 1932 (Jefferson); M.Sc., 1936 (Pennsylvania)

JOHN HOWARD FERGUSON (1943), *Professor of Physiology*
B.A., 1921 (Cape Town); B.A., 1925, M.A., 1931 (Oxford); M.D., 1928 (Harvard); L.M.S.S.A., 1931 (London); F.A.C.P., 1945; D.Sc., 1957 (Cape Town)

JOSEPH STEVENS FERRELL (1964), *Assistant Professor of Public Law and Government*
B.S., 1960, LL.B., 1963 (North Carolina); LL.M., 1964 (Yale)

JORGE FERRIZ (1964), *Assistant Professor of Psychiatry*
M.D., 1950 (National University of Mexico)

RICHARD ALEXANDER FEWELL (1952), *Clinical Professor of Medicine*
A.B., 1943 (Princeton); M.D., 1945 (Pennsylvania)

SUE GARRETT FICKER (1965), *Research Associate in Maternal and Child Health*
A.B., 1963 (South Carolina); M.A., 1965 (North Carolina)

PAUL BARRY FIDDLEMAN (1965), *Assistant Professor of Psychology*
A.B., 1955 (Brooklyn); M.A., 1957, Ph.D., 1961 (North Carolina)

[48]HARLAN EDWARD FIEHLER (1965), *Research Associate in Chemistry*
B.S., 1950 (Southeast Missouri State); Ph.D., 1959 (Missouri)

PETER ERIC FIELDING (1965), *Research Associate in Chemistry*
B.Sc., 1950, M.Sc., 1963 (University of Sydney); Ph.D., 1958 (University of New South Wales)

ARCHIE REID FIELDS (1966), *Chief, Circulation Department, University Library*
B.S., 1941 (U. S. Naval Academy); M.A., 1962 (Stanford); M.L.S., 1964 (Washington)

SIMEON FIELDS (1965), *Lieutenant Commander, United States Navy; Assistant Professor of Naval Science*
A.B., 1954 (Kentucky); M.A., 1959 (George Peabody)

SAMUEL FILLENBAUM (1958), *Associate Professor of Psychology*
B.A., 1952 (City College of New York); M.A., 1954, Ph.D., 1956 (California)

JOHN PATON FILLEY (1958), *Associate Professor of Mental Health and Clinical Assistant Professor of Psychiatry*
B.S., 1948, M.D., 1952 (Yale)

EDWARD LESTER FINCHER (1965), *Associate Professor of Aerobiology and of Bacteriology*
B.A., 1948 (Mercer); M.Sc., 1949 (Emory); Ph.D., 1962 (Georgia)

ARTHUR EMIL FINK (1945), *Professor of Social Work and Research Professor in the Institute for Research in Social Science*
A.B., 1924, A.M., 1930, Ph.D., 1936 (Pennsylvania); M.S.W., 1937 (Pennsylvania School of Social Work)

ELIZABETH MARSHALL FINK (1964), *Assistant Director, Institute for Research in Social Science*
B.S., 1946 (East Tennessee State College); M.A., 1953 (North Carolina)

RUTH WHITE FINK (1947), *Associate Professor of Physical Education and Director of Physical Education for Women*
B.Sc., 1926, A.M., 1936 (Ohio State)

JANET JORDAN FISCHER (1952), *Assistant Professor of Medicine*
A.B., 1944 (Vassar); M.D., 1948 (Johns Hopkins)

NEWTON DUCHAN FISCHER (1952), *Professor of Surgery*
B.S., 1942, A.B., 1943, M.D., 1945 (Texas)

ANNE ELIZABETH HOPKINS FISHEL (1965), *Instructor in Nursing*
B.S.N., 1962 (North Carolina); R.N.; M.S.N., 1965 (North Carolina)

WILLIAM R. FISHER, JR. (1966), *Lieutenant Commander, United States Navy; Assistant Professor of Naval Science*
B.S., 1948 (U. S. Naval Academy)

ROBERT PAUL FITZGERALD (1962), *Assistant Professor of English*
A.B., 1953 (Cornell); M.A., 1959, Ph.D., 1964 (Iowa)

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47. Absent on leave, September 1, 1966 through September 1, 1967.
48. Resigned June 6, 1966.

FOSTER FITZ-SIMONS (1942), *Associate Professor of Dramatic Art and Staff Director of The Carolina Playmakers*
A.B., 1934 (North Carolina)

WILLIAM SHOEMAKER FLASH (1964), *Assistant Dean of the School of Public Health, Associate Professor of the Department of Public Health Administration, and Lecturer in Political Science*
A.B., 1948, M.P.A., 1950, Ph.D., 1954 (Harvard)

WILLIAM GORDON FLEMING (1964), *Assistant Professor of Political Science and Research Associate in the Institute for Research in Social Science*
M.Sc., 1960 (London School of Economics and Political Science); Ph.D., 1964 (Northwestern)

WILLIAM LEROY FLEMING (1952), *Professor of Preventive Medicine and Medicine and Assistant Dean of the School of Medicine for Education and Research*
B.A., 1925, M.S., 1927, M.D., 1932 (Vanderbilt)

JOHN DAVID FLETCHER (1963), *Clinical Assistant Professor of Pediatrics*
B.A., 1953 (Emory and Henry College); M.D., 1959 (Virginia)

JOSEPH MARTIN FLORA (1962), *Associate Professor of English*
B.A., 1956, M.A., 1957, Ph.D., 1962 (Michigan)

[49]CHARLES ELY FLOWERS, JR. (1952), *Professor of Obstetrics and Gynecology*
B.S., 1941 (The Citadel); M.D., 1944 (Johns Hopkins)

ENOLA SUE FLOWERS (1957), *Instructor in Physical Therapy*
B.S., 1944 (High Point College); Cert. P.T., 1945 (O'Reilly, U. S. Army)

[50]JOE SUMMERS FLOYD, JR. (1956), *Professor of Finance and Drexel Research Professor*
B.S., 1943 (Florida); M.A., 1944, Ph.D., 1950 (North Carolina)

ANDREW R. FODOR (1965), *Adjunct Associate Professor of Parasitology (Field)*
B.A., 1935, M.S., 1939, Ph.D., 1954 (New York University)

RICHARD HARTER FOGLE (1966), *Professor of English*
B.A., 1933 (Hamilton College); M.A., 1936 (Columbia); Ph.D., 1944 (Michigan)

ERNEST LINWOOD FOLK III (1963), *Professor of Law*
A.B., 1952 (Roanoke College); LL.B., 1956, M.A., 1958 (Virginia)

RALPH EDWARD FOLSOM (1966), *Research Associate in Biostatistics*
B.S., 1964 (Texas A & M); M.S., 1966 (Iowa State)

ELEANOR ANN FORBES (1953), *Assistant Professor of Dental Hygiene*
R.D.H., B.S., 1953 (Temple)

CHRISTOPHER COLUMBUS FORDHAM III (1957), *Assistant Dean and Associate Professor of Medicine*
M.D., 1951 (Harvard)

WILLIAM DELORME FORDYCE (1964), *Instructor in English*
A.B., 1956, A.M.T., 1957, A.M., 1959 (Harvard)

[51]WILLIAM WOMBLE FORREST (1956), *Visiting Assistant Professor of Pathology*
B.S., 1946 (North Carolina); M.D., 1948 (Harvard)

DAVIS FORT (1965), *Clinical Assistant Professor of Obstetrics and Gynecology*
B.B.A., 1949, B.S., 1956 (Georgia); M.D., 1960 (Tennessee)

LUCY FORT (1965), *Instructor in Nursing*
Dip. in Nursing, 1950 (Stuart Circle Hospital, Richmond, Virginia); R.N.; B.S.N., 1958, M.S.N., 1965 (North Carolina)

MARY EVELYN FORTUNE (1963), *Instructor in Recreation Administration*
A.B., 1939 (Shorter College); M.S., 1960 (North Carolina)

CLIFFORD MCCLAIN FOUST, JR. (1957), *Associate Professor of History*
A.B., 1949 (Syracuse); M.A., 1951, Ph.D., 1957 (Chicago)

JOHN WORTH FOUST (1961), *Clinical Instructor in Surgery*
B.S., 1952, M.D., 1955 (North Carolina)

[52]IRA FOWLER (1953), *Associate Professor of Anatomy*
B.S., 1942 (Louisiana Polytechnic Institute); M.S., 1949 (Louisiana State); Ph.D., 1952 (Northwestern)

RONALD ERNEST FOX (1963), *Assistant Professor of Psychology in the Departments of Psychiatry and Psychology*
A.B., 1958, M.A., 1960, Ph.D., 1962 (North Carolina)

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49. Resigned July 31, 1966.
50. Died April 28, 1966.
51. Resigned June 30, 1966.
52. Resigned June 30, 1966.

DAVID ALLISON FRASER (1961), *Associate Professor of Industrial Hygiene in the Department of Environmental Sciences and Engineering*
B.A. in Chem., 1947 (Pennsylvania); M.S. in Chem., 1956 (Xavier); D.Sc., 1961 (Cincinnati)

FRANCES WIDENHOUSE FRAUENDORFER (1964), *Lecturer in Clinical Social Work, Section of Allied Educational Programs*
A.B., 1949 (Duke); M.S.W., 1954 (Washington)

RICHARD LANE FRAUTSCHI (1958), *Associate Professor of French*
B.A., 1949 (Wisconsin); M.A., 1953, Ph.D., 1958 (Harvard)

KEENER CHAPMAN FRAZER (1921), *Professor of Political Science*
A.B., 1920 (Wofford); A.M., 1921 (North Carolina); d.pol.Sc. Institute Universitaire de Hautes Etudes Internationales, 1932 (Geneva); L.H.D. (Birmingham-Southern College); Honorary Graduate, The United States Naval War College

JACOB BERKE FREELAND (1964), *Clinical Professor of Endodontics*
D.D.S., 1936 (Emory)

DAVID FRANKLIN FREEMAN (1961), *Clinical Associate Professor of Child Psychiatry*
B.S., 1948 (Wake Forest); M.D., 1951 (Bowman Gray)

JEAN FREEMAN (1941), *Lecturer in Library Science and Assistant to the Dean of the School of Library Science*
A.B. (L.S.), 1933 (Woman's College, North Carolina); B.A., 1958 (North Carolina)

KATHRYN EAVES FREEMAN (1957), *Pharmacy Librarian, Division of Health Affairs*
A.B. in L.S., 1929 (Woman's College, North Carolina)

DIRK FRENCH (1964), *Instructor in Classics*
B.A., 1955 (Lawrence College); M.A., 1964 (Princeton University)

FRANK SIKES FRENCH (1964), *Assistant Professor of Pediatrics*
A.B., 1951 (Kansas); M.D., 1956 (Rochester)

MOYE WICKS FREYMANN (1966), *Professor of Public Health Administration*
B.A., 1945 (Yale); M.D., 1948 (Johns Hopkins); M.P.H., 1956, Dr.P.H., 1960 (Harvard)

IRIS ISABEL FRIEDERICH (1962), *Lecturer in Classics*
B.A., 1936, M.A., 1938 (University of Melbourne)

WERNER PAUL FRIEDERICH (1935), *Kenan Professor of German and Comparative Literature (1959)*
A.M., 1929, Ph.D., 1932 (Harvard); Schweizerisches Staatsexamen (Bern) 1931

ASHBY JACKSON FRISTOE (1966), *Chief, Acquisitions Department, University Library*
B.A., 1942 (Tulane); M.L.S., 1964 (Rutgers)

WERNER FUCHS (1966), *Visiting Lecturer in Classical Archaeology*
Doktor der Philosophie, 1953, Habilitation, 1963 (University of Tübingen)

YUZURU FUJIWARA (1966), *Research Associate in Chemistry*
Ph.D., 1965 (University of Tokyo)

HENRY FLEMING FULLER (1956), *Clinical Associate Professor of Obstetrics and Gynecology*
B.S., 1932 (Wake Forest); M.D., 1936 (Pennsylvania)

ROWLAND ELDER FULLILOVE (1965), *Clinical Instructor in Psychiatry*
M.D., 1951 (Maryland)

JOHN THOMAS FULTON (1958), *Professor of Dental Epidemiology*
D.D.S., 1925 (Ohio State)

BEVERLY LANE FUSSELL (1964), *Instructor in Nursing*
B.S., 1961 (Maryland); R.N.; M.S., 1964 (North Carolina)

KUNO RUBEN GABRIEL (1966), *Visiting Associate Professor of Biostatistics*
B.S., 1949 (London School of Economics); Ph.D., 1957 (Hebrew University)

RALPH ALBERT GAKENHEIMER (1962), *Associate Professor of Planning and Research Associate in the Institute for Research in Social Science*
B.E.S., 1957 (Johns Hopkins); M.R.P., 1959 (Cornell); Ph.D., 1964 (Pennsylvania)

M. DAVID GALINSKY (1965), *Associate Professor of Psychology, Clinical Associate Professor of Psychiatry, and Director of the Clinical Training Program*
A.B., 1956 (Duke); A.M., 1959, Ph.D., 1961 (Michigan)

MAEDA JURKOWITZ GALINSKY (1965), *Assistant Professor of Social Work*
B.A., 1956 (Radcliffe); M.S.W., 1961, Ph.D., 1963 (Michigan)

PATRICK JOSEPH GALLACHER (1964), *Instructor in English*
A.B., 1955, M.A., 1957 (Detroit); Ph.D., 1966 (Illinois)

EDWARD MICHAEL GALLIGAN (1964), *Assistant Professor of Philosophy*
B.S., 1956 (St. Joseph's College); M.A., 1960, Ph.D., 1965 (Indiana)

ROBERT EMIL GALLMAN (1962), *Associate Professor of Economics*
A.B., 1948 (Cornell); M.A., 1949, Ph.D., 1956 (Pennsylvania)

BRYANT LEROY GALUSHA (1965), *Clinical Assistant Professor of Pediatrics*
A.B., 1948 (West Virginia); M.D., 1952 (Western Reserve)

BUDD LESLIE GAMBEE (1963), *Associate Professor of Library Science*
B.A., 1940 (Rochester); A.B.L.S., 1941, M.A.L.S., 1949, Ph.D., 1963 (Michigan)

ALBERT W. GARD III (1966), *Lieutenant (junior grade), United States Navy; Assistant Professor of Naval Science*
B.S., 1963 (Virginia)

O. DAVID GARVIN (1944), *Clinical Associate Professor of Preventive Medicine and Visiting Associate Professor of Public Health Administration*
M.D., 1932 (Medical College of the State of South Carolina); M.P.H., 1939 (Johns Hopkins)

JAMES REUBEN GASKIN (1950), *Professor of English and Director of the Summer Session*
A.B., 1942 (Chattanooga); Ph.D., 1952 (North Carolina)

TADEUSZ ZDZISLAW GASINSKI (1965), *Assistant Professor of Slavic Languages*
B.A., 1956 (Warsaw University, Poland); M.A., 1962, Ph.D., 1966 (Stanford)

[53]JOHN STUART GAUL, JR. (1962), *Clinical Instructor in Surgery (Orthopedics)*
M.D., 1946 (Temple)

RUFUS WHARTON GAUL (1962), *Clinical Instructor in Surgery (Orthopedics)*
B.S., 1949 (North Carolina); M.D., 1953 (Pennsylvania)

[54]JAMES DICKSON GAULT (1965), *Instructor of Education*
A.B., 1936 (Muskingum); M.A., 1941 (Western Reserve)

SYLVESTER PARKER GAY (1952), *Clinical Associate Professor of Periodontology and Oral Pathology*
D.D.S., 1926 (Atlanta-Southern Dental College)

WILLIAM MONROE GEER (1947), *Lecturer in Modern Civilization and Director of Student Aid*
A.B., 1935 (The Citadel); M.A., 1936 (Emory)

JOHN T. GENTRY (1964), *Assistant Dean of the School of Public Health and Associate Professor of Public Health Administration*
A.A., 1941 (Harris Jr. College, Missouri); A.B., 1944, B.S., M.D., 1948 (Washington University, Missouri); M.P.H., 1951 (Harvard)

LUCILLE K. GEORG (1964), *Adjunct Associate Professor of Parasitology (Field)*
B.S., 1933, M.S., 1934 (Michigan); Ph.D., 1948 (Columbia)

CLAUDE SWANSON GEORGE, JR. (1954), *Professor of Industrial Management and Associate Dean of the School of Business Administration*
B.S., 1943, M.S., 1951 (North Carolina); Ph.D., 1953 (State University of Iowa)

ROSE G. GEORGE (1966), *Assistant Professor of Nursing*
Dip. in Nursing, 1941 (Massachusetts Memorial Hospital, Boston); R.N.; B.S., 1951 (Wayne State University); M.S., 1966 (North Carolina)

WESLEY CRITZ GEORGE (1912), *Professor of Histology and Embryology, Emeritus (1961)*
A.B., 1911, A.M., 1912, Ph.D., 1918 (North Carolina)

JOACHIM DIETER GERATZ (1960), *Assistant Professor of Pathology*
M.D., 1953 (J. W. Goethe University, Frankfurt, Germany)

[55]JOSHUA SULLIVAN GIBSON (1947), *Associate Professor of Geography*
B.A., 1926 (Abilene Christian College); Ph.M., 1929 (Wisconsin); Ph.D., 1934 (Clark)

FEDERICO GUILLERMO GIL (1943), *Kenan Professor of Political Science, (1966) Research Professor in the Institute for Research in Social Science, and Director of the Institute of Latin American Studies*
J.D., 1940, D.Pol.Sci., 1941, D.Dip.Law, 1942 (Habana)

DOUGLAS RADCLIFFE GILL (1965), *Assistant Professor of Public Law and Government*
B.A., 1962 (Duke); LL.B., 1965 (Harvard)

NANCY GILLILAND (1965), *Assistant Professor of Nursing*
Dip. in Nursing, 1948 (Greenville General Hospital, Greenville, South Carolina); R.N.; B.S.N 1962 (North Carolina); M.N., 1965 (Emory)

HILLEL J. GITELMAN (1966), *Assistant Professor of Medicine*
A.B., 1954 (Princeton); M.D., 1958 (Rochester)

53. Resigned July 1, 1966.
54. Resigned August 31, 1966.
55. Retired July 1, 1966.

HAROLD LYNDON GLAD (1966), *Assistant Professor of Physical Education*
B.S., 1953 (Maryville College); A.M., 1954, Ed.D., 1966 (Columbia)

JAY HOWARD GLASSER (1964), *Instructor in Biostatistics*
B.A., 1957 (Connecticut); M.S., 1960 (Columbia)

RICHARD LEE GLASSER (1957), *Associate Professor of Physiology*
A.B., 1949 (Johns Hopkins); Ph.D., 1957 (Maryland)

EDWARD GLASSMAN (1960), *Associate Professor of Biochemistry*
B.A., 1949, M.S., 1951 (New York University); Ph.D., 1955 (Johns Hopkins)

WILLIAM PAUL GLEZEN (1965), *Assistant Professor of Pediatrics*
B.S., 1953 (Purdue); B.S., 1954, M.D., 1956 (Illinois)

WALDO S. GLOCK (1966), *Visiting Professor of Geology and Director, Three-Ring Research Laboratory*
B.A., 1920 (Iowa); Ph.D., 1925 (Yale)

BERNARD GLUECK, SR. (1956), *Clinical Professor of Psychiatry, Emeritus (1965)*
M.D., 1909 (Georgetown)

JAMES LOGAN GODFREY (1936), *Distinguished University Professor of History*
A.B., 1931 (Roanoke); A.M., 1933 (North Carolina); Ph.D., 1942 (Chicago)

HAROLD LACY GODWIN (1956), *Clinical Associate Professor of Medicine*
B.S., 1944 (North Carolina); M.D., 1947 (Harvard)

PETER RANDALL GOETHALS (1966), *Associate Professor of Anthropology*
A.B., 1950 (Harvard College); Ph.D., 1961 (Yale)

MARY B. GOLBY (1965), *Clinical Instructor in Medicine*
A.B., 1948 (Greensboro); M.D., 1953 (George Washington)

JAY GOLDMAN (1964), *Visiting Associate Professor in Hospital Administration*
B.S., 1950 (Duke); M.S., 1951 (Michigan State); D.Sc., 1955 (Washington)

CHARLES HARRY GOLDSMITH (1965), *Research Associate in Biostatistics*
B.S., 1961, M.S., 1963 (Manitoba)

ALEXANDER FAIRLEY GOLEY (1962), *Clinical Assistant Professor of Medicine*
B.S., 1952 (Davidson); M.D., 1956 (North Carolina)

HARRY GOODER (1961), *Associate Professor of Bacteriology*
B.Sc., 1949, Ph.D., 1952 (Leeds University, England); Fellow of the Royal Institute of Chemistry, 1960

DONALD RAEFORD GOODWIN (1966), *Clinical Instructor of Prosthodontics*
A.B., 1960, D.D.S., 1964 (North Carolina)

ELAINE LONG GOOLSBY (1966), *Instructor in Clinical Social Work, Section of Allied Educational Programs*
A.B., 1951 (Duke); M.S.W., 1963 (North Carolina)

JOHN ALFRED GORMAN (1962), *Assistant Professor of Psychology*
A.B., 1958, M.A., 1961, Ph.D., 1964 (North Carolina)

[56]IRVING I. GOTTESMAN (1963), *Associate Professor of Psychology in the Department of Psychiatry and Department of Psychology*
B.S., 1953 (Illinois Institute of Technology); Ph.D., 1960 (Minnesota)

CARL WILLIAM GOTTSCHALK (1953), *Professor of Medicine and Physiology*
B.S., 1942 (Roanoke College); M.D., 1945 (Virginia); Sc.D., 1966 (Roanoke College)

HILTON THOMAS GOULSON (1957), *Associate Professor of Parasitology*
A.B., 1952 (Luther College); M.S.P.H., 1953, Ph.D., 1957 (North Carolina)

GERALDINE GOURLEY (1963), *Associate Professor of Maternal and Child Health*
Ph.B., 1935 (Washburn); M.S.S.W., 1942 (Chicago)

ROBERT A. GOYER (1965), *Assistant Professor of Pathology*
B.S., 1950 (Holy Cross); M.D., 1955 (St. Louis)

EUGENE VERNON GRACE (1964), *Clinical Instructor in Surgery*
M.D., 1956 (Michigan)

FREDERICK C. GRAHAM (1965), *Instructor in German*
A.B., 1960 (Bates College); M.A., 1964 (Cincinnati)

JOHN BORDEN GRAHAM (1946), *Alumni Distinguished Professor of Pathology (1966)*
B.S., 1938 (Davidson); M.D., 1942 (Cornell)

[56a]WILLARD J. GRAHAM (1952), *Professor of Accounting and Director of the Executive Program, School of Business Administration*
A.B., 1921, LL.D. (Tarkio College); A.M., 1924, Ph.D., 1934 (Chicago); C.P.A., 1925 (State of Illinois); LL.D., 1965 (George Washington)

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56. Resigned September 30, 1966.
56a. Died November 5, 1966.

WILLIAM ALEXANDER GRAHAM (1940), *Clinical Assistant Professor of Obstetrics and Gynecology*
A.B., 1928 (North Carolina); M.D., 1932 (Pennsylvania)

JAMES BURNEY GRAVES (1965), *Instructor in Classics*
A.B., 1957 (North Carolina)

RUSSELL B. GRAVES (1958), *Associate Professor of Dramatic Art*
B.F.A., 1948, M.F.A., 1949 (Carnegie Institute of Technology); Ph.D., 1953 (Florida State)

GUS WEST GRAY (1966), *Assistant Professor of Prosthodontics*
B.S., 1939 (Oklahoma City University); D.D.S., 1943 (Kansas City)

[57]FLETCHER MELVIN GREEN (1921), *Kenan Professor of History (1946) and Research Professor in the Institute for Research in Social Science*
Ph.B., 1920 (Emory); A.M., 1922, Ph.D., 1927 (North Carolina); Litt.D. (Emory); (Washington and Lee)

JULIUS A. GREEN, JR. (1966), *Clinical Instructor in Radiology*
B.S., 1953, M.D., 1957 (North Carolina)

[58]OSBORNE HARVEY GREEN, JR. (1965), *Instructor of Philosophy*
B.A., 1962, Ph.D., 1966 (Vanderbilt)

PHILIP PALMER GREEN, JR. (1949), *Professor of Public Law and Government*
A.B., 1943 (Princeton); LL.B., 1949 (Harvard)

BERNARD GEORGE GREENBERG (1949), *Professor of Biostatistics*
B.S., 1939 (College of the City of New York); Ph.D., 1949 (North Carolina State)

EDWARD KENNETH GREENWALD (1967), *Instructor of Biomathematics and Bioengineering in Department of Surgery*
B.S., 1959 (Ohio State)

VICTOR AUGUST GREULACH (1949), *Professor of Botany*
A.B., 1929 (DePauw); M.S., 1933, Ph.D., 1940 (Ohio State)

[59]JOHN HAWKINS GRIBBIN (1961), *Associate University Librarian*
A.B., 1942 (North Carolina); B.L.S., 1947, M.L.S., 1951 (California); Ph.D., 1958 (Chicago)

RAYMOND WATSON GRIFFIN (1964), *Instructor in Health Facilities Design in the Department of Hospital Administration*
Bachelor of Architecture, 1960 (Clemson)

CHARLES T. GRIFFITH (1964), *Instructor of Music*
B.M., 1961 (Oberlin College Conservatory of Music, Oberlin, Ohio); B.S., 1962, M.S., 1963 (Julliard School of Music, New York City)

GEORGE BENJAMIN GRILLS, JR. (1964), *Lecturer in Radio, Television, and Motion Pictures*
B.S.E.E., 1962 (Duke)

JAMES ENNIS GRIZZLE (1957), *Associate Professor of Biostatistics in the Institute of Statistics and the School of Public Health*
B.S., 1951 (Berea College); M.S., 1953 (Virginia Polytechnic Institute); Ph.D., 1960 (North Carolina State)

[60]JEAN GUILLOU (1965), *Assistant Professor of French*
C.A.R.E.S., 1957 (University of Rennes and Sorbonne); Agregation, 1959 (Sorbonne)

JOHN GULICK (1955), *Professor of Anthropology and Research Professor in the Institute for Research in Social Science*
A.B., 1949, A.M., 1951, Ph.D., 1953 (Harvard)

JUNE URIAH GUNTER (1946), *Visiting Assistant Professor of Pathology*
A.B., 1931 (North Carolina); M.D., 1936 (Jefferson Medical College)

STEPHEN THOMAS GUPTON, JR. (1963), *Clinical Instructor in Medicine*
B.A., 1953, M.D., 1957 (North Carolina)

FRANCES OSBORNE GUST (1962), *Instructor of Public Health Administration and Assistant to the Dean of the School of Public Health*
A.B., 1929 (Guilford); M.P.H., 1956 (North Carolina)

PAUL NEWMAN GUTHRIE (1946), *Professor of Economics*
A.B., 1926 (Tennessee); B.D., 1932 (Union Theological Seminary); M.A., 1932, Ph.D., 1946 (Columbia)

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57. Absent on leave, spring semester, 1967.
58. Fall semester, 1966-1967 and spring semester, 1967.
59. Resigned August 15, 1966.
60. Resigned July 1, 1966.

FRANZ GUTMANN (1939), *Lecturer in Economics, Emeritus (1949); Professor of Economics, Emeritus, University of Göttingen*
D.Ec., 1904 (Strasbourg)

ROBERT JOSEPH GWYN (1966), *Assistant Professor of Radio, Television, and Motion Pictures*
B.F.A., 1948, M.A., 1953 (Texas); Ph.D., 1963 (Illinois)

JOHN MINOR GWYNN (1924), *Professor of Education*
A.B., 1918, A.M., 1927 (North Carolina); Ph.D., 1935 (Yale)

IRVINE REY HAGADORN (1962), *Associate Professor of Zoology*
B.A., 1955, M.A., 1957, Ph.D., 1962 (California, Berkeley)

GEORGE PHILIP HAGER (1966), *Professor of Medicinal Chemistry and Dean of the School of Pharmacy*
B.S., 1938, M.S., 1940, Ph.D., 1942 (Maryland)

GLENN EDGAR HAIR (1964), *Assistant Professor of Surgery*
B.S., 1955, M.D., 1959 (North Carolina)

[61]WALDO EMERSON HAISLEY (1960), *Associate Professor of Physics*
B.A., 1936 (Texas); M.A., 1940 (Columbia); Ph.D., 1952 (North Carolina)

DAVID KINGSLEY HALL (1965), *Clinical Instructor of Oral Surgery*
D.D.S., 1952 (Howard)

[62]LOUISE MCGWIGAN HALL (1957), *Chief, Humanities Division, University Library*
A.B., 1940, B.S. in L.S., 1941 (North Carolina); M.A., 1944 (Illinois)

WILLIAM E. HALL (1966), *Assistant Professor of Pharmacy*
B.S., 1961 (Arkansas); M.S., 1964, Ph.D., 1966 (Wisconsin)

WILLIAM JACKSON HALL (1957), *Professor of Statistics*
A.B., 1950 (Johns Hopkins); M.A., 1951 (Michigan); Ph.D., 1955 (North Carolina)

GEORGE CAVERNO HAM (1951), *Clinical Professor of Psychiatry*
M.D., 1937 (Pennsylvania)

WILLIAM HAMBURGER (1961), *Associate Professor of Economics*
B.A., 1948, M.A., 1950, Ph.D., 1951 (Chicago)

CURTIS G. HAMES (1965), *Visiting Associate Professor of Epidemiology*
B.S., 1941, M.D., 1944 (Georgia)

GEORGE F. HAMILTON (1964), *Instructor in Physical Therapy, Section of Allied Educational Programs*
B.S., 1952 (Pennsylvania State); Cert. P.T., 1955, M.S., 1956 (Iowa)

TOM F. HAMILTON (1965), *Major, United States Air Force; Assistant Professor of Aerospace Studies*
B.S., 1951 (East Texas Baptist College)

FREDERICK DELMAR HAMRICK III (1966), *Instructor in Bacteriology and Pathology*
A.B., 1955, M.D., 1962 (North Carolina)

FRANK WILLIAM HANFT (1931), *Graham Kenan Professor of Law (1966)*
LL.B., 1924, A.B., 1929, LL.M., 1929 (Minnesota); S.J.D., 1931 (Harvard)

ROGER DURHAM HANNAY (1966), *Assistant Professor of Music*
B.M., 1952 (Syracuse); M.M., (Boston); Ph.D., 1956 (Eastman School of Music)

ANN CATON HANSEN (1958), *Associate Professor of Public Health Nursing*
B.S., 1952 (Johns Hopkins); M.P.H., 1956 (North Carolina)

JAMES WILLIAM HANSON (1963), *Lecturer in Information Science*
B.S., 1949 (United States Naval Academy); M.A., 1956 (Michigan)

OSBORNE BENNETT HARDISON, JR. (1957), *Professor of English*
B.A., 1949, M.A., 1950 (North Carolina); Ph.D., 1956 (Wisconsin)

JACQUES HARDRÉ (1945), *Professor of French*
Bacc.Sciences-Languages, 1936 (Paris); A.B., 1937 (Guilford); A.M., 1941, Ph.D., 1948 (North Carolina)

JOHN BLACKWELL HARDY, JR. (1966), *Clinical Instructor of Prosthodontics*
B.S., 1957 (North Carolina State); D.D.S., 1965 (North Carolina)

MARTHA ZANT HARDY (1965), *Lecturer in English*
B.A., 1944 (Oklahoma State); M.A., 1951 (North Carolina)

WILLIAM MARION HARDY (1963), *Associate Professor of Radio, Television, and Motion Pictures and Adviser in the College of Arts and Sciences*
B.S., 1943 (Duke); M.A., 1954 (North Carolina)

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61. Absent on leave, September 1, 1966 through September 1, 1967.
62. Absent on leave, July 1, 1966 through December 31, 1966.

ROY ALLEN HARE (1954), *Clinical Associate Professor of Medicine*
B.S., 1942 (Wake Forest); M.D., 1945 (Bowman Gray)

VIRGINIA HARGETT (1965), *Instructor in Nursing, School of Nursing*
Dip. in Nursing, 1951 (Park View Hospital, Rocky Mount); R.N.; B.S.N., 1962, M.S.N., 1965 (North Carolina)

EUGENE ALEXANDER HARGROVE (1954), *Clinical Professor of Psychiatry*
A.B., 1939, M.D., 1942 (Texas)

[63]JAMES PERRY HARKNESS (1964), *Assistant Professor of Sociology in the Department of Hospital Administration*
B.A., 1951, M.A., 1953, Ph.D., 1961 (Michigan State)

JOHN COUSTY HARKNESS (1962), *Lecturer in Residence, School of Business Administration*
B.S., 1921 (Carnegie Institute of Technology)

JAMES PENROSE HARLAND (1922-23; 1927), *Professor of Archaeology, Emeritus (1963)*
A.B., 1913, A.M., 1915, Ph.D., 1920 (Princeton)

HERBERT SPENCER HARNED, JR. (1958), *Associate Professor of Pediatrics*
B.S., 1942, M.D., 1945 (Yale)

CHARLES L. HARPER (1966), *Assistant Dean of the School of Public Health and Instructor in Public Health Administration*
B.A., 1949, M.S.P.H., 1950 (North Carolina)

[63]GEORGE MILLS HARPER (1950), *Professor of English*
A.B., 1940 (Culver-Stockton College); A.M., 1947 (Florida); Ph.D., 1951 (North Carolina)

HOWARD M. HARPER, JR. (1964), *Assistant Professor of English*
B.S., 1952 (Slippery Rock STC); M.A., 1957, Ph.D., 1964 (Pennsylvania State)

[63]GARY R. HARRIS (1964), *Instructor in the School of Education*

LOUIS HARRIS (1965), *Lecturer in Political Science*
A.B., 1942 (North Carolina)

LOUIS S. HARRIS (1966), *Associate Professor of Pharmacology*
B.A., 1954, M.A., 1956 (Harvard College); Ph.D., 1958 (Harvard University)

RUTH JANE HARRIS (1966), *Assistant Professor of Nursing*
Dip. in Nursing, 1944 (New England Deaconess Hospital School of Nursing, Boston); R.N.; B.S.N., 1954, M.S., 1955 (Boston)

TYNDALL PEACOCK HARRIS (1957), *Clinical Assistant Professor of Medicine and Associate University Physician*
B.S., 1947 (North Carolina); M.D., 1950 (Duke)

MAXWELL LAMAR HARRISON (1964), *Associate Professor of Operative Dentistry and Endodontics*
B.S., 1947 (Auburn); D.D.S., 1951 (Emory)

[64]HARDWICK WILTON HARSHMAN (1961), *Assistant Professor of Education and Director, Program for Teachers of Mentally Retarded*
A.B., 1937 (Earlham College); A.M., 1939 (Indiana); B.D., 1945 (Garrett Theological Seminary); Ph.D., 1962 (Michigan)

EARL HORACE HARTSELL (1936), *Associate Professor of English, Emeritus (1965)*
A.B., 1924, A.M., 1935, Ph.D., 1942 (North Carolina)

ISAO HASHIMOTO (1961), *Research Associate in Chemistry*
B.S., 1956 (University of Hawaii); M.S., 1959, Ph.D., 1961 (Wisconsin)

WILLIAM EMERSON HATFIELD (1963), *Assistant Professor of Chemistry*
B.S., 1958, M.S., 1959 (Marshall College); Ph.D., 1962 (Arizona)

JOSEPH CHARLES HATHAWAY, JR. (1963), *Assistant Professor of Pathology*
B.S., 1953 (Northwestern); M.D., 1957 (Washington)

GEOFFREY HAUGHTON (1966), *Assistant Professor of Bacteriology and Immunology*
Ph.D., 1958 (University of S. Hampton, England)

DAVID ROLLO HAWKINS (1952), *Professor of Psychiatry*
B.A., 1945 (Amherst); M.D., 1946 (Rochester)

AMOS H. HAWLEY (1966), *Professor of Sociology and Research Professor in the Institute for Research in Social Science*
A.B., 1936 (Cincinnati); A.M., 1938, Ph.D., 1941 (Michigan)

RUTH WARWICK HAY (1940), *Professor of Public Health Nursing, Emeritus (1962)*
Diploma, 1920 (Francis Payne Bolton School of Nursing, Western Reserve); R.N.; B.A., 1916 (Ohio Wesleyan); M.S., 1925 (Western Reserve)

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63. Resigned August 31, 1966.
64. Resigned August 31, 1966.

GLEN HAYDON[65] (1934), *Kenan Professor of Music (1951) and Chairman of the Department of Music*
A.B., 1918, A.M., 1921 (California); Ph.D., 1932 (Vienna)

DONALD BALES HAYMAN (1949), *Professor of Public Law and Government*
A.B., 1940 (Kansas); A.M., 1947, Ph.D., 1963 (North Carolina)

ANNE RENOUF HEADLEY (1965), *Assistant Professor of Political Science*
A.B., 1959 (Barnard); M.A., 1962, Ph.D., 1966 (Yale)

JOHN MILES HEADLEY (1964), *Associate Professor of History*
A.B., 1951 (Princeton); M.A., 1952, Ph.D., 1960 (Yale)

MILTON SYDNEY HEATH (1925), *Professor of Economics, Emeritus (1962)*
A.B., 1917 (Kansas); A.M., 1924, Ph.D., 1938 (Harvard)

MILTON SYDNEY HEATH, JR. (1957), *Professor of Public Law and Government and Professor of Environmental Sciences and Engineering*
A.B., 1949 (Harvard); LL.B., 1952 (Columbia)

EDWARD MCGOWAN HEDGPETH (1934), *Taylor Grandy Clinical Professor of Medicine (1966) and Director of Student Health Service*
A.B., 1927 (North Carolina); M.D., 1931 (Pennsylvania); F.A.C.P., 1944

CLARENCE HEER (1927), *Kenan Professor of Economics (1945), Emeritus (1953)*
A.B., 1914 (Rochester); Ph.D., 1926 (Columbia)

FRED JOHN HEINRITZ (1963), *Assistant Professor of Library Science*
B.A., 1952, B.S., 1956 (Cincinnati); M.L.S., 1958, Ph.D., 1963 (Rutgers)

JOHN WILLIAM HEINTZ (1964), *Assistant Professor of Philosophy*
A.B., 1957 (St. Lawrence University); Ph.D., 1965 (Duke)

GEORGE CHARLES HEMMENS (1965), *Associate Professor of Planning*
A.B., 1957 (Illinois); M.R.P., 1959 (North Carolina); Ph.D., 1966 (Massachusetts Institute of Technology)

RALPH B. HEMMIG (1966), *Lieutenant Colonel, United States Air Force; Professor of Aerospace Studies*
B.A., 1957 (Sacramento State College); M.A., 1963 (Denver)

LUCILE KELLING HENDERSON (1932), *Professor of Library Science and Dean of the School of Library Science, Emeritus (1960)*
A.B., 1917 (Whitman College); B.L.S., 1921 (New York State Library School)

WAYNE E. HENDERSON (1965), *Clinical Assistant Professor of Psychology in the Department of Psychiatry*
B.A., 1958 (Westminster College); Ph.D., 1962 (Tennessee)

JAMES RICHARD HENDRICKS (1949), *Associate Professor of Parasitology*
B.S., 1940 (Guilford); S.M., 1948, Ph.D., 1951 (North Carolina)

CATHERINE HENLEY (1949), *Research Associate in Zoology*
A.B., 1943 (North Carolina); M.A., 1947 (Johns Hopkins); Ph.D., 1949 (North Carolina)

RUCKER STERLING HENNIS, JR. (1961), *Associate Professor of Education*
A.B., 1952, M.A., 1956, Ph.D., 1961 (North Carolina)

MARY ELIZABETH HENRY (1946), *Head of the Bureau of Correspondence Instruction, Extension Division*
A.B., 1939 (North Carolina)

WILLIAM HENRY HERIFORD (1963), *Head of the Bureau of Residential Adult Education, Extension Division*
A.B., 1952 (Missouri); B.D., 1962 (Midwestern Baptist Theological Seminary)

JOHN CARROLL HERION (1957), *Associate Professor of Medicine*
B.S., 1949 (Davidson); M.D., 1953 (Harvard)

JAN HERMANS (1964), *Associate Professor of Biochemistry*
Ph.D., 1958 (University of Leiden, Holland)

JAN JOSEPH HERMANS (1962), *Visiting Professor of Chemistry*
Ph.D., 1937 (University of Leiden, Holland)

JOHN PETER HERNANDEZ (1966), *Instructor in Physics*
B.E.E., 1962 (Manhattan College); M.Sc., 1963 (Stanford)

HARRIET LAURA HERRING (1925), *Professor of Sociology, Emeritus (1965) and Research Professor in the Institute for Research in Social Science*
A.B., 1913 (Meredith); A.M., 1918 (Radcliffe)

VICTOR GRAY HERRING III (1963), *Clinical Assistant Professor of Pediatrics*
B.S., 1953, M.D., 1956 (North Carolina)

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65. Died May 7, 1966.

WILLIAM BENJAMIN HERRING (1963), *Assistant Professor of Medicine*
B.S., 1949 (Wake Forest); M.D., 1953 (Bowman Gray)

GAY MAHAFFY HERTZMAN (1964), *Art Librarian*
A.B., 1960 (State University of Iowa); M.S. in L.S., 1965 (North Carolina)

WILLIAM THEODORE HERZOG (1964), *Assistant Professor of Public Health Education and Public Health Administration and Assistant Director of Continued Education Service*
B.A., 1955 (Knox College); M.S.P.H., 1958 (North Carolina)

DUNCAN CHARTERIS HETHERINGTON (1965), *Visiting Professor of Anatomy*
A.B., 1919 (Colorado); M.A., 1921 Ph.D., 1922 (Illinois); M.D., 1926 (Johns Hopkins)

ROBERT G. HEYNEMAN (1966), *Associate Professor of Mathematics*
B.S., 1950 (California Institute of Technology); Ph.D., 1957 (California, Berkeley)

THOMAS FELIX HICKERSON (1909), *Kenan Professor of Applied Mathematics (1945), Emeritus (1952)*
Ph.B., 1904, A.M., 1907 (North Carolina); S.B. in Civ. Eng'g., 1909 (Massachusetts Institute of Technology)

DORALYN JOANNE HICKEY (1962), *Assistant Professor of Library Science*
B.A., 1951 (Rice); M.A., 1953 (Presbyterian School of Christian Education); M.L.S., 1957 (Rutgers); Ph.D., 1962 (Duke)

[65a]JAMES BENTON HICKEY (1956), *Head Football Coach*
A.B., 1942 (William and Mary)

HENRY CULLE HIGHTOWER (1965), *Assistant Professor of Planning*
B.Sc., 1958 (London); Ph.D., 1965 (North Carolina)

LESTER BODINE HIGLEY (1953), *Professor of Orthodontics*
B.A., 1922, M.S., 1934 (Grinnell); D.D.S., 1926 (Iowa)

CLEONE MAE HILL (1958), *Associate Professor of Nursing*
Dip. in Nursing, 1945 (Garfield Memorial Hospital, Washington, D. C.); R.N.; B.S., 1950 (Eastern Nazarene College); M.A., 1957 (Columbia)

JOHN BENJAMIN HILL (1952), *Associate Professor of Pharmacology*
B.S., 1945 (Wisconsin); Ph.D., 1950, M.D., 1952 (Columbia)

[66]MAY DAVIS HILL (1958), *Curator, Ackland Art Center, and Bibliographic Consultant*
B.A., 1943, M.A., 1944, B.S. in L.S., 1955 (North Carolina)

[67]MICHAEL ARENDELL HILL, JR. (1921), *Professor of Mathematics*
A.B., 1920, A.M., 1922 (North Carolina)

MORRIS HILL (1966), *Visiting Associate Professor of Planning*
B.S., 1960 (University of South Africa); M.C.P., 1962, Ph.D., 1966 (Pennsylvania)

SAMUEL SMYTHE HILL, JR. (1960), *Associate Professor of Religion*
A.B., 1949 (Georgetown College, Kentucky); M.A., 1952 (Vanderbilt); B.D., 1953 (Southern Baptist Theological Seminary); Ph.D., 1960 (Duke)

[68]EDWARD WILLIAM HILLE (1963), *Lieutenant Commander, United States Navy; Assistant Professor of Naval Science*
B.S., 1953 (Illinois Institute of Technology)

MARTIN PATTERSON HINES (1959), *Adjunct Associate Professor of Public Health Administration*
D.V.M., 1946 (Ohio State); M.P.H., 1949 (Harvard)

RUTHANN FOX HINES (1966), *Research Associate in Public Health Administration*
B.A., 1960 (Norfolk College of William and Mary); M.Ed., 1965 (North Carolina)

CHARLES EDWIN HINSDALE (1961), *Associate Professor of Public Law and Government*
A.B., 1940 (North Carolina); LL.B., 1946 (George Washington)

GARY MELVIN HIPPS (1966), *Assistant Professor of Education*
A.B., 1958, M.A., 1959 (North Carolina); M.A.T., 1963, Ed.D., 1965 (Duke)

OPAL HIPPS (1966), *Instructor in Nursing*
B.S.N., 1960 (North Carolina); R.N.; M.S.N., 1964 (North Carolina)

PHILIP F. HIRSCH (1966), *Associate Professor of Pharmacology*
B.S., 1950, Ph.D., 1954 (California)

RICHARD GRANT HISKEY (1958), *Professor of Chemistry*
A.B., 1951 (Kansas State Teachers College); M.S., 1953 (Kansas State College); Ph.D., 1956 (Wayne State)

65a. Resigned December 31, 1966.
66. Resigned September 15, 1966.
67. Retired June 30, 1966; Part-time Professor, 1966-1967.
68. Transferred June 30, 1966.

JOSEPH MARTIN HITCH (1952), *Clinical Professor of Medicine (Dermatology)*
A.B., 1929 (Delaware); M.D., 1933, M.S., 1938 (Virginia)

SETH GUILFORD HOBART, JR. (1955), *Clinical Instructor in Surgery (Otolaryngology)*
B.S., 1941 (Virginia Military Institute); M.D., 1950 (Virginia)

RICHARD JUNIUS MENDENHALL HOBBS (1929), *Professor of Business Law, Emeritus (1960)*
A.B., 1909 (Guilford); A.B., 1911 (Haverford); LL.B., 1914 (Columbia)

SAMUEL HUNTINGTON HOBBS, JR. (1916), *Professor of Rural Sociology and Research Professor in the Institute for Research in Social Science*
A.B., 1916, A.M., 1917 (North Carolina); Ph.D., 1929 (Wisconsin)

NORMAN J. HOCHELLA (1965), *Research Associate in Pharmacology*
A.B., 1952 (Lafayette College)

ELIZABETH DESALLES HODGES (1966), *Visiting Lecturer in Library Science*
B.S., 1939 (Virginia); B.S. in L.S., 1941 (North Carolina)

LUTHER HARTWELL HODGES, SR. (1965), *Lecturer in Residence, School of Business Administration*
A.B., 1919 (North Carolina)

WASSILY HOEFFDING (1949), *Professor of Statistics*
Ph.D., 1940 (Berlin)

EMMA JOSEPHINE HOEFFNER (1965), *Instructor in Nursing*
Dip. in Nursing, 1953 (Bellevue School of Nursing, New York); R.N.; B.S.N., 1963 (Rochester); M.S., 1965 (Maryland)

EDWARD LEO HOGAN (1966), *Assistant Professor of Medicine and Biochemistry*
B.S., 1953, M.D., 1957 (Tufts)

FRANCES BURNS HOGAN (1946-50; 1953), *Assistant Professor of Physical Education*
B.S., 1943 (Winthrop); M.A., 1946 (Iowa)

CLYDE MELISSE HOGSED (1964), *Assistant Professor of Nursing*
Dip. in Nursing, 1939 (Georgia Baptist Hospital, Atlanta, Georgia); R.N.; B.S.P.H.N., 1948 (North Carolina); M.A., 1952 (Columbia)

DAVID J. HOLBROOK, JR. (1960), *Assistant Professor of Biochemistry*
B.S., 1955 (William and Mary); Ph.D., 1959 (North Carolina)

GEORGE RUHLE HOLCOMB (1957), *Assistant Professor of Anatomy and Dean of Research Administration*
B.A., 1950, M.A., 1952, Ph.D., 1956 (Wisconsin)

MURRY WADE HOLLAND (1956), *Associate Professor of Crown and Bridge Prosthodontics*
A.B., 1952 (Elon); D.D.S., 1956 (North Carolina); M.Ed., 1961 (Duke)

WALTER HOLLANDER, JR. (1956), *Associate Professor of Medicine and Assistant to the Dean*
B.S., 1943 (Haverford); M.D., 1950 (Harvard)

LUTHER CLARENCE HOLLANDSWORTH (1964), *Assistant Professor of Surgery (Anesthesiology)*
M.D., 1951 (Bowman Gray)

[69]ELIZABETH STEPHENS HOLLEY (1959), *Associate Professor of Public Health Nursing*
A.B., 1941 (South Carolina); Diploma in Nursing, 1944 (Johns Hopkins Hospital School of Nursing); R.N.; M.A., 1949 (Teachers College, Columbia University)

LYDIA SAY HOLLEY (1961), *Assistant Professor of Physical Therapy and Public Health Administration*
B.A., 1948 (Coker College); Cert. P.T., 1950 (Duke); M.P.H., 1961 (North Carolina)

HANSEL H. HOLLINGSWORTH (1961), *Lecturer in Social Work, and Associate Director of the Group Child Care Project*[70]
A.B., 1949 (Mercer); M.S.S.W., 1951 (Vanderbilt)

[71]CHARLES CARROLL HOLLIS (1963), *Professor of English*
Ph.B., 1935 (Marquette); M.A., 1937 (Wisconsin); Ph.D., 1954 (Michigan)

WILLIAM GRAY HOLLISTER (1965), *Associate Professor of Psychiatry and Mental Health*
A.B., 1937, B.S., 1940, M.D., 1941 (Nebraska); M.P.H., 1947 (Johns Hopkins)

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69. Resigned January 31, 1966; Visiting Associate Professor of Public Health Nursing, effective July 1, 1966.
70. Fall semester, 1966.
71. Absent on leave, fall semester 1966-1967.

[72]C. HUGH HOLMAN (1949), *Kenan Professor of English (1959) and Provost of the University*
B.S., 1936, B.A., 1938 (Presbyterian College); Ph.D., 1949 (North Carolina); D.Litt. (Presbyterian College)

CARL BAKER HOLMES (1963), *Associate Professor of Public Health Administration*
D.D.S., 1954 (Tennessee); M.P.H., 1957 (Michigan)

URBAN TIGNER HOLMES, JR. (1925), *Kenan Professor of Romance Philology (1945)*
A.B., 1920 (Pennsylvania); A.M., 1921, Ph.D., 1923 (Harvard); Litt.D. (Washington and Lee; Western Michigan)

ROY WALTER HOLSTEN (1960), *Lecturer in Business Administration and Assistant to the Dean of the School of Business Administration*
A.B., 1950 (Nortb Carolina)

SAMUEL M. HOLTON (1948), *Professor of Education*
A.B., 1942, M.Ed., 1947 (Duke); B.S., 1943 (New York); M.A., 1947, Pb.D., 1948 (Yale)

MAX HOYT HOMMERSAND (1958), *Associate Professor of Botany*
B.A., 1954, Pb.D., 1958 (California)

[73]JOHN J. HONIGMANN (1951), *Professor of Anthropology and Research Professor in the Institute for Research in Social Science*
A.B., 1942 (Brooklyn College); M.A., 1943, Ph.D., 1947 (Yale)

WALTER KELLY HOOD (1966), *Instructor in English*
B.A., 1961, M.A., 1963 (North Carolina)

CHARLES WRIGHT HOOKER (1949), *Professor of Anatomy*
A.B., 1930, A.M., 1932, Ph.D., 1933 (Duke)

MARY CUTLER HOPKINS (1948), *Mathematics-Physics and Chemistry Librarian*
B.A., 1928 (Western College for Women); B.L.S., 1929 (Western Reserve)

[74]GEORGE FREDERICK HORNER (1926), *Professor of English*
A.B., 1921, A.M., 1924 (Pennsylvania State); Ph.D., 1938 (Nortb Carolina)

SALLY MELVIN HORNER (1962), *Research Associate in Chemistry*
B.S., 1957, Ph.D., 1961 (North Carolina)

[74]HAROLD HOTELLING (1946), *Kenan Professor of Statistics (1961)*
A.B., 1919, M.Sc., 1921 (Washington); Ph.D., 1924 (Princeton); LL.D. (Chicago); D.Sc. (Rochester)

PAUL BARRYMAN HOUNSHELL (1966), *Assistant Professor of Education*
B.S., 1955, M.S., 1956 (Virginia); Ed.D., 1959 (North Carolina)

ROBERT BURTON HOUSE (1957), *Chancellor, Emeritus (1957); University Professor of English and Classics, Emeritus (1962)*
A.B., 1916 (North Carolina); A.M., 1917 (Harvard); LL.D. (Catawba; Bowdoin)

[75]JAMES LEE HOWARD (1964), *Lecturer in Education, Assistant Director, Fifth-Year Program in Teacher Education*
B.A., 1956 (Centre College of Kentucky); M.Ed., 1962, Ed.D., 1965 (North Carolina)

[76]ROBERT A. HOWARD (1951), *Associate Professor of Art*
B.A., M.A., 1949 (Tulsa)

S. KENNETH HOWARD (1965), *Assistant Professor of Public Law and Government and Assistant Professor of Political Science*
B.A., 1957 (Northwestern); M.P.A., 1959, Ph.D., 1962 (Cornell)

[77]ALMONTE CHARLES HOWELL (1920), *Professor of English and Adviser to Foreign Students*
A.B., 1917 (Denison); M.A., 1920 (Columbia); Ph.D., 1924 (North Carolina); Prof. Hon., 1948 (San Carlos, Guatemala)

JAMES BALDWIN HOWELL (1957), *Clinical Associate Professor of Periodontology and Oral Pathology*
B.S., 1942 (Davidson); D.D.S., 1949 (Medical College of Virginia)

HUGHES BAYNE HOYLE III (1966), *Instructor of Mathematics*
B.S., 1962, M.A., 1963 (North Carolina)

VINTON ASBURY HOYLE (1925), *Professor of Mathematics*
A.B., 1924, A.M., 1925 (North Carolina); Ph.D., 1930 (Princeton)

PAUL S. HUBBARD (1958), *Associate Professor of Physics*
B.S., 1953 (Florida); A.M., 1954, Ph.D., 1958 (Harvard)

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72. On leave from teaching, July 15, 1966.
73. Absent on leave, February 1, 1967 through February 1, 1968.
74. Retired July 1, 1966.
75. Resigned June 30, 1966.
76. Absent on leave, fall semester, 1966-1967.
77. Retired from teaching June 30, 1966.

[78]SYLVIA MARTYN HUBBARD (1965), *Lecturer in Information Science*
A.B., 1958 (Radcliffe); M.A., 1962 (North Carolina)

ARTHUR PALMER HUDSON (1930), *Kenan Professor of English (1951), Emeritus (1963)*
B.S., 1913, M.A., 1920 (Mississippi); A.M., 1925 (Chicago); Ph.D., 1930 (North Carolina)

LINDA KAY HUDSON (1964), *Instrustor in Nursing*
B.S., 1962 (Alderson-Broaddus College, Phillippi, West Virginia); R.N.; M.S., 1964 (Ohio State)

FRANCES HUEMER (1959), *Associate Professor of Art*
A.B., 1944 (Duke); M.A., 1952, Ph.D., 1959 (New York University)

ALVIN DOUGLAS HUFF (1964), *Commander, United States Navy; Associate Professor of Naval Science*
B.S., 1942 (United States Naval Academy)

WILLIAM DAVIS HUFFINES (1957), *Associate Professor of Pathology*
B.S., 1951, M.D., 1955 (North Carolina)

MAYNARD MICHAEL HUFSCHMIDT (1965), *Professor of Planning and Environmental Sciences and Engineering*
B.S., 1939 (Illinois); M.P.A., 1955, D.P.A., 1964 (Harvard)

LEONARD VICTOR HUGGINS, JR. (1965), *Instructor of Art*
A.B., 1962 (North Carolina); M.A.C.A., 1966 (North Carolina)

JOHN T. HUGHES (1960), *Associate Professor of Public Health Administration*
B.S., 1940 (Wake Forest); D.D.S., 1947 (Maryland); M.P.H., 1958, Dr.P.H., 1962 (North Carolina)

JAROSLAN FACIAN HULKA (1966), *Associate Professor of Maternal and Child Health, School of Public Health and Department of Obstetrics and Gynecology, School of Medicine*
B.S., 1952 (Harvard); M.D., 1956 (Columbia College of Physicians and Surgeons)

DOUGLAS GEORGE HUMM (1951), *Professor of Zoology*
B.S., 1939 (Yale); Ph.D., 1948 (Stanford)

WALTER SKELLIE HUNT (1957), *Clinical Assistant Professor of Surgery (Orthopedics)*
B.S., 1937 (North Carolina); M.D., 1940 (Northwestern)

GROVER CLEVELAND HUNTER, JR. (1952), *Professor of Oral Pathology and Periodontology and Director of Dental Hygiene*
A.B., 1936, D.D.S., 1940 (Emory); M.S., 1941 (Illinois)

ROBERT ROSS HUNTLEY (1959), *Assistant Professor of Preventive Medicine and Medicine and Public Health Administration*
B.S., 1947 (Davidson); M.D., 1951 (Bowman Gray)

HOWARD RUSSELL HUSE (1920), *Professor of French and Italian, Emeritus (1963)*
Ph.B., 1913, Ph.D., 1930 (Chicago)

PETER HUTCHIN (1966), *Instructor in Surgery (Thoracic)*
M.D., 1956 (Duke)

RONALD H. HUTTON (1965), *Instructor in the Department of Hospital Administration and Assistant Director of North Carolina Memorial Hospital*
B.S., 1959, M.S., 1961 (East Tennessee State); M.A., 1964 (Medical College of Virginia)

RONALD WESLEY HYATT (1966), *Instructor in Physical Education*
A.B., 1956 (Furman); M.Ed., 1959 (North Carolina)

[79]PANAYOTIS G. IATRIDIS (1963), *Research Associate in Physiology*
M.D., 1951 (University of Athens, Greece)

SADAO IKEDA (1965), *Research Associate in Statistics*
Rigaku-shi, 1952 (Osaka); Rigaku-hakushi, 1964 (Kyushyu)

[79]LYNN DAVID IKENBERRY (1963), *Instructor of Chemistry*
B.S., 1957 (Duke); Ph.D., 1964 (Chicago)

TSUTOMU IMAMURA (1966), *Visiting Associate Professor of Physics*
S.B., 1951, Ph.D., 1957 (Osaka University, Japan)

HENRY RUDOLPH IMMERWAHR (1957), *Professor of Greek*
Dottore in Lettere, 1938 (University of Florence, Italy); Ph.D., 1943 (Yale)

JAMES CARLTON INGRAM (1952), *Professor of Economics and Dean of the Graduate School (1966)*
B.S., 1942 (Alabama); M.A., 1947 (Stanford); Ph.D., 1952 (Cornell)

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78. Resigned January 25, 1966.
79. Resigned August 31, 1966.

[80]ROY LEE INGRAM (1947), *Professor of Geology*
B.S., 1941 (North Carolina); M.S. in Geol. and Phys., 1943 (Oklahoma); Ph.D., 1948 (Wisconsin)

CHESTER ARTHUR INSKO (1965), *Assistant Professor of Psychology*
A.B., 1957 (California); M.A., 1958 (Boston); Ph.D., 1963 (California)

[81]TOSHISHIGE INUI (1964), *Research Associate in Chemistry*
B.S., 1950, Ph.D., 1961 (Osaka University)

JOSEPH LOGAN IRVIN (1950), *Professor of Biochemistry*
B.S., 1934 (South Carolina); Ph.D., 1938 (Pennsylvania)

KAZUHIKO ISHIZU (1965), *Research Associate in Chemistry*
B.S., 1950, Ph.D., 1964 (Kyoto)

WILLIAM LENTZ IVEY (1958), *Lecturer in Economics; Director of the North Carolina Memorial Hospital and Assistant Professor of Hospital Administration*
B.S., 1948 (Alabama Polytechnic Institute); M.S., 1951 (North Carolina)

SAGAR C. JAIN (1965), *Visiting Assistant Professor of Personnel and Public Health in the School of Business Administration and School of Public Health*
B.A., 1950, M.A., 1952 (Delhi); A.M., 1960 (Illinois); Ph.D., 1964 (Cornell)

RICHARD ELMER JAMERSON (1938), *Professor of Physical Education*
B.S., 1932 (Rice); M.A., 1934, Ed.D., 1949 (Teachers College, Columbia)

FREDERICK CHARLES JAMES (1966), *Instructor in Botany*
A.B., Science, 1958 (East Carolina); M.Ed., 1962 (North Carolina)

RICHARD CALVIN JARNAGIN (1958), *Associate Professor of Chemistry*
B.S., 1952 (Southern Methodist); Ph.D., 1958 (Yale)

ALBERT MILTON JENKINS (1966), *Clinical Assistant Professor of Radiology*
M.D., 1947 (Cincinnati)

CARLYLE DAVID JENKINS (1959), *Associate Professor of Epidemiology and Clinical Associate Professor of Psychology in the Department of Psychiatry*
A.B., 1950 (Chicago); M.A., 1953, Ph.D., 1960 (North Carolina)

WILLIAM SUMNER JENKINS (1930), *Professor of Political Science and Director of the Bureau of Public Records Collection and Research*
A.B., 1924, A.M., 1925, Ph.D., 1927, LL.B., 1931 (North Carolina); M.A. in Military Government, 1943 (Columbia)

CHARLES EDWIN JENNER (1950), *Professor of Zoology*
A.B., 1941 (Central College); A.M., 1949, Ph.D., 1951 (Harvard)

WILLIAM ELLIOTT JENNER (1962), *Professor of Mathematics*
B.A., 1947 (Queen's University, Canada); M.A., 1948 (University of Toronto); Ph.D., 1952 (Michigan)

THOMAS HARLAN JERDEE (1959), *Associate Professor of Business Administration*
B.A., 1950 (Gustavus Adolphus College); M.A., 1956, Ph.D., 1961 (Minnesota)

DONALD CHARLES JICHA (1960), *Associate Professor of Chemistry and Adviser in the General College*
B.S., 1955 (Illinois); Ph.D., (Ohio State)

KATHARINE JOCHER (1924), *Professor of Sociology and Research Professor in the Institute for Research in Social Science, Emeritus (1961)*
A.B., 1922 (Goucher); A.M., 1923 (Pennsylvania); Ph.D., 1929 (North Carolina); LL.D. (Goucher); Litt.D. (Western College for Women)

DELL BUSH JOHANNESEN (1957), *Associate Professor of Economics*
B.S., 1943, M.S., 1951, Ph.D., 1956 (North Carolina)

ALBERT L. JOHNSON (1965), *Assistant Professor of Public Health Administration*
B.A., 1947 (California); M.A., 1949 (Chicago); M.P.H., 1962, Ph.D., 1963 (North Carolina)

BETTY SUE JOHNSON (1965), *Assistant Professor of Nursing*
Dip. in Nursing, 1953, R.N.; B.S.N.Ed., 1954 (Duke); M.S., 1959 (Maryland)

CALLIE MARGARET JOHNSON (1961), *Nursing Librarian, Division of Health Affairs Library*
R.N., 1927, B.S., 1933 (Virginia); M.P.H., 1950 (North Carolina)

[82]CECIL SLATON JOHNSON (1931), *Professor of History*
A.B., 1922 (Mississippi College); M.A., 1924 (Virginia); Ph.D., 1932 (Yale); LL.D. (William Carey College)

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80. Absent on leave, fall semester, 1966-1967.
81. Resigned July 31, 1966.
82. Part-time Professor, 1966-1967.

EDWARD STOKES JOHNSON (1966), *Associate Professor of Psychology*
B.A., 1955, M.A., 1958, Ph.D., 1961 (North Carolina)

FRANKFORD MILAM JOHNSON (1966), *Research Associate in Information Science*
B.S., 1952, M.A., 1953 (East Carolina College)

GEORGE JOHNSON, JR. (1960), *Associate Professor of Surgery (Vascular)*
B.S., 1949 (North Carolina); M.D., 1952 (Cornell)

GUY BENTON JOHNSON (1924), *Kenan Professor of Sociology and Anthropology (1963) and Research Professor in the Institute for Research in Social Science*
A.B., 1921 (Baylor); A.M., 1922 (Chicago); Ph.D., 1927 (North Carolina)

JAMES DONALD JOHNSON, JR. (1961), *Associate Professor of Environmental Chemistry in the Department of Environmental Sciences and Engineering*
B.S., 1957 (U.C.L.A.); Ph.D., 1962 (North Carolina)

MARJORY WILSON JOHNSON (1961), *Assistant Professor of Physical Therapy*
B.S., 1943 (Woman's College, North Carolina); Cert. P.T., 1944 (Walter Reed); M.A., 1964 (Stanford University)

MARK ALLYN JOHNSON (1966), *Research Associate in Biostatistics*
B.S., 1964 (Colorado State)

NORMAN LLOYD JOHNSON (1962), *Professor of Statistics*
B.Sc. in Math., 1936, B.Sc. in Statistics, 1937, M.Sc., 1938, Ph.D., 1949, D.Sc., 1963 (London)

THOMAS GEORGE JOHNSON, JR. (1966), *Clinical Assistant Professor of Preventive Dentistry and Dental Science*
D.D.S., 1965 (North Carolina)

[83]THOMAS HATCHER JOHNSON (1961), *Instructor in Physical Education*
B.A., 1957, M.A., 1959 (North Carolina)

BEN MCBANE JOHNSTON (1964), *Clinical Instructor in Prosthodontics*
A.B., 1954, D.D.S., 1958 (North Carolina)

FRANK SMITH JOHNSTON (1966), *Instructor in Medicine*
B.S., 1955 (Davidson); M.D., 1959 (North Carolina)

ANNIE LEE JONES (1958), *Associate Professor of Education*
A.B., 1939, M.A., 1951 (East Carolina College); Ed.D., 1958 (Boston)

CLAIBORNE STRIBLING JONES (1944), *Professor of Zoology and Assistant to the Chancellor*
A.B., 1935 (Hampden-Sydney); M.A., 1940, Ph.D., 1944 (Virginia)

IRENE TEREFENKO JONES (1964), *Instructor in Dental Science*
B.S., 1958 (Ithaca); M.A., 1964 (Columbia)

JOSEPH KEMPTON JONES (1952), *Clinical Assistant Professor of Medicine*
A.B., 1944, M.D., 1946 (Duke)

JOSEPH RAMON JONES (1962), *Associate Professor of Spanish and Adviser in the General College*
B.A., 1956 (University of the South); M.A., 1959, Ph.D., 1962 (Wisconsin)

LYLE VINCENT JONES (1957), *Professor of Psychology and Director of the Psychometric Laboratory*
B.S., 1947, M.S., 1948 (Washington); Ph.D., 1950 (Stanford)

MARY ELLEN JONES (1966), *Associate Professor of Biochemistry*
B.S., 1944 (Chicago); Ph.D., 1951 (Yale)

MORRIS ALEXANDER JONES, JR. (1965), *Clinical Instructor in Radiology*
B.S., 1956, M.D., 1959 (North Carolina)

SAMUEL SHEPARD JONES (1965), *Burton Craige Professor of Political Science (1956)*
A.B., 1930 (Georgetown College, Kentucky); M.A., 1931 (Kentucky); Ph.D., 1936 (Oxford)

ARTHUR MELVILLE JORDAN (1923), *Professor of Educational Psychology Emeritus (1961)*
A.B., 1907 (Randolph-Macon); A.M., 1909 (Trinity College); Ph.D., 1919 (Columbia)

WELDON HUSKE JORDAN (1957), *Clinical Assistant Professor of Medicine*
B.S., 1944 (North Carolina); M.D., 1947 (Harvard)

PRAKASH CHANDRA JOSHI (1965), *Research Associate in Biostatistics*
B.Sc., 1960, M.Sc., 1962 (Lucknow)

[84]ALBERT WILLOUGHBY JOWDY (1960), *Associate Professor of Pharmacy Administration*
S.B., 1943, M.S., 1949, Ph.D., 1955 (North Carolina)

83. Resigned September 1, 1966.
84. Resigned August 31, 1966.

WILLIAM STAFFORD JOYNER (1955), *Clinical Assistant Professor of Medicine*
B.S., 1948 (Davidson); M.D., 1952 (Harvard)

KAI JURGENSEN (1944), *Associate Professor of Dramatic Art*
A.B., 1937 (Montana); A.M., 1943 (North Carolina)

[85]GEORGE KACHERGIS (1949), *Associate Professor of Art*
Diploma, 1940, B.F.A., 1946, M.F.A., 1948 (The Art Institute of Chicago)

EDWARD JOHN KAISER (1965), *Assistant Professor of Planning*
B.Arch., 1958 (Illinois Institute of Technology); Ph.D., 1966 (North Carolina)

MARGARET ELLEN KALP (1947), *Associate Professor of Library Science and Acting Dean of the School of Library Science*
B.A., 1936 (New Jersey College for Women); M.A. in L.S., 1942 (Michigan)

FRANCIS JOSEPH KANE, JR. (1961), *Assistant Professor of Psychiatry*
B.S., 1949 (Iona College); M.D., 1953 (New York Medical College)

[86]JUNG-WONG KANG (1964), *Research Associate in Chemistry*
B.S., 1956 (Kinki University); M.S., 1959, Ph.D., 1962 (Osaka University)

ELIZABETH P. KANOF (1966), *Clinical Instructor in Medicine*
B.A., 1956 (Mt. Holyoke College); M.D., 1960 (New York University)

BERTON H. KAPLAN (1962), *Assistant Professor of Epidemiology*
B.S., 1951 (Virginia Polytechnic Institute); M.S., 1952, Ph.D., 1962 (North Carolina)

MICHAEL PETER KATZ (1965), *Assistant Professor of Law*
A.B., 1959, LL.B., 1961 (Cape Town); LL.M., 1964 (Yale)

LEO KAUFMAN (1965), *Adjunct Associate Professor of Parasitology (Field)*
B.S., 1952 (Brooklyn); M.S., 1955, Ph.D., 1958 (Kentucky)

WALLACE V. KAUFMAN (1965), *Instructor in English*
B.A., 1961 (Duke); B.Litt., 1963 (Oxford)

CORNELIUS TIMPSON KAYLOR (1947), *Associate Professor of Anatomy*
A.B., 1931 (Wesleyan); M.S., 1933 (Rutgers); Ph.D., 1936 (Princeton)

WILLIAM ROBERTSON KEECH (1964), *Assistant Professor of Political Science, Research Associate in the Institute for Research in Social Science, and Associate Director of the Louis Harris Data Center*
A.B., 1961 (Bucknell); M.A., 1962, Ph.D., 1966 (Wisconsin)

MARTIN H. KEELER (1957), *Associate Professor of Psychiatry*
B.A., 1949 (New York University); M.D., 1953 (New York Medical College)

[87]ALAN KEITH-LUCAS (1950), *Alumni Distinguished Professor of Social Work (1961), and Director, Group Child Care Project*
B.A., 1931, M.A., 1935 (Trinity College, Cambridge); M.Sc. (Soc. Admin.), 1939 (Western Reserve); Ph.D., 1955 (Duke)

MARY FRANCES KELLAM (1945), *Assistant Professor of Physical Education*
B.S., 1944 (Woman's College, North Carolina); A.M., 1948 (North Carolina)

JOHN ESTEN KELLER (1943-46; 1950), *Professor of Spanish*
B.A., 1940, M.A., 1942 (Kentucky); Ph.D., 1946 (North Carolina)

[88]JAMES CLARENCE KELLETT, JR. (1961), *Assistant Professor of Pharmaceutical Chemistry*
B.S. in Phar., 1957 (South Carolina); M.S., 1959, Ph.D., 1961 (Purdue)

MARJORIE GLADDING KELLEY (1965), *Lecturer in Social Work*
M.A., 1962 (Chicago)

LUTHER W. KELLY, JR. (1965), *Clinical Assistant Professor of Medicine*
M.D., 1948 (Harvard)

NORBERT LAWRENCE KELLY, JR. (1962), *Adjunct Associate Professor of Public Health Education*
A.B., 1939 (Carnegie Institute of Technology); M.A., 1947, Ph.D., 1952 (North Carolina)

RICHARD STERLING KELLY, JR. (1957), *Clinical Assistant Professor of Pediatrics*
B.S., 1942 (Davidson); M.D., 1945 (Jefferson)

ELIZABETH LOUANNA KEMBLE (1950), *Professor of Nursing and Dean of the School of Nursing*
Dip. in Nursing, 1927 (College of Nursing and Health, Cincinnati); R.N.; B.S., 1940 (New York University); M.A., 1943, Ed.D., 1948 (Columbia)

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85. Absent on leave, spring semester, 1967.
86. Resigned September 15, 1966.
87. Absent on leave, fall semester, 1966-1967.
88. Resigned May 26, 1966.

GEORGE ALEXANDER KENNEDY (1966), *Professor of Classics*
A.B., 1950 (Princeton); M.A., 1952, Ph.D., 1954 (Harvard)

EDWARD MARTIN KENNEY (1949), *Head Golf Coach*

ROSEMARY MAY KENT (1951), *Associate Professor of Public Health Education*
A.B., 1933 (Agnes Scott); M.A., 1934 (Emory); M.P.H., 1946, Ph.D., 1949 (North Carolina)

JOHN GRAHAME KENWORTHY (1966), *Research Associate in Physics*
B.A., 1961, M.A., 1964, D. Phil., 1964 (Oxford University, England)

LOUIS TODD KERMON (1952), *Clinical Associate Professor of Medicine*
B.S., 1941 (Wake Forest); M.D., 1950 (Jefferson Medical College)

JOHN ROBERT KERNODLE (1957), *Clinical Assistant Professor of Obstetrics and Gynecology*
A.B., 1935 (Elon); M.D., 1942 (Duke)

88a THOMAS CLEVELAND KERNS (1952), *Consultant in Surgery (Ophthalmology)*
A.B., 1907 (North Carolina); M.D., 1911 (Pennsylvania)

THOMAS CLEVELAND KERNS, JR. (1958), *Clinical Assistant Professor of Surgery (Ophthalmology)*
B.A., 1946 (North Carolina); M.D., 1950 (Duke)

KEVIN JOHN KERRANE (1966), *Instructor in English*
B.A., 1962 (Wheeling); M.A., 1964 (North Carolina)

HORST KESSEMEIER (1964), *Assistant Professor of Physics*
Diploma, 1957 (University of Hamburg, Germany); Ph.D., 1964 (Washington University, St. Louis, Missouri)

LAWRENCE DEVLIN KESSLER (1966), *Instructor in History*
B.A., 1958, M.A., 1962 (Chicago)

DOROTHY JANE KIESTER (1963), *Lecturer in Public Law and Government*
A.B., 1939, M.S.S.W., 1951 (Texas)

GUSTIN THOMAS KIFFNEY, JR. (1959), *Clinical Associate Professor of Surgery (Ophthalmology)*
A.B., 1951 (Holy Cross); M.D., 1955 (Albany)

WILLIAM H. KILLEN (1966), *Instructor in Physical Education*
B.S., 1963 (West Chester State College); M.Ed., 1964 (North Carolina)

KWANG SOO KIM (1963), *Research Assistant Professor in Bacteriology*
B.S., 1959 (Florida Southern College); Ph.D., 1964 (North Carolina)

ODELL CULP KIMBRELL, JR. (1960), *Clinical Assistant Professor of Medicine*
B.A., 1947 (Duke); M.D., 1951 (Pennsylvania)

ALBERT WARREN KING (1958), *Assistant Professor of Social Work*
A.B., 1950, M.S.W., 1956 (North Carolina)

ARNOLD KIMSEY KING (1925), *Vice-President for Institutional Studies and Professor of Education*
A.B., 1925 (North Carolina); A.M., 1927, Ph.D., 1951 (Chicago)

JAMES KIMBALL KING (1964), *Assistant Professor of English*
B.A., 1956 (Johns Hopkins); M.A., 1960 (Wesleyan); Ph.D., 1964 (Wisconsin)

RICHARD AUSTIN KING (1958), *Associate Professor of Psychology*
A.B., 1954, M.A., 1955 (Cincinnati); Ph.D., 1959 (Duke)

RICHARD W. KINNAIRD (1964), *Assistant Professor of Art*
B.A., 1953 (Carleton College); M.F.A., 1958 (Illinois)

JOHN ALVIN KIRKLAND (1958), *Clinical Instructor in Obstetrics and Gynecology*
B.S., 1948 (North Carolina); M.D., 1952 (Harvard)

HENRY NEIL KIRKMAN (1965), *Professor of Pediatrics*
B.S., 1947 (Georgia Tech); M.S., 1950 (Emory); M.D., 1952 (Johns Hopkins)

89 JAMES BYRON KIRKMAN (1961), *Research Associate in Pediatrics*
B.S., 1949 (High Point College); M.S., 1952 (Alabama)

CHARLES ATKINSON KIRKPATRICK (1946), *Professor of Marketing*
A.B., 1928, A.M., 1929 (Duke); D.C.S., 1933 (New York University)

FRANK WYSOR KLINGBERG (1948), *Professor of History*
B.A., 1941, Ph.D., 1948 (U.C.L.A.)

CLARICE ANN KLUMP (1966), *Instructor in Surgery (Audiology)*
B.S., 1965 (Northwestern); M.S., 1966 (Michigan)

88a. Retired July 1, 1965.
89. Resigned July 31, 1966.

JACK L. KNETSCH (1966), *Visiting Lecturer in Planning*
B.S., 1955, M.S., 1956 (Michigan State); M.P.A., 1959, Ph.D., 1963 (Harvard)
SAMUEL BRADLEY KNIGHT (1941), *Professor of Chemistry*
B.S., 1934 (Clemson); S.M., 1937, Ph.D., 1938 (North Carolina)
JAMES L. KNIPE (1965), *Visiting Professor of Finance*
Ph.B., 1926, M.A., 1934, Ph.D., 1940 (Yale)
HUGH WINANTS KNOX (1965), *Lecturer in Economics and City Planning*
B.A., 1962 (Haverford)
KERMIT FREDERICK KNUDTZON (1953), *Professor of Preventive Dentistry and Dental Science*
D.D.S., 1927 (Illinois)
GARY KOCH (1963), *Research Associate in Biostatistics*
B.S., 1962, M.S., 1963 (Ohio State)
WILLIAM JULIAN KOCH (1950), *Associate Professor of Botany*
A.B., 1947, M.A., 1950, Ph.D., 1956 (North Carolina)
JAN JUSTUS KOHLMEYER (1964), *Assistant Professor in the Institute of Marine Sciences*
Dr. rer. nat., 1955 (Free University, Berlin, Germany)
ESZTER B. KOKAS (1960), *Professor of Physiology*
M.D., 1927 (University of Debrecen, Hungary)
JACOB KOOMEN (1959), *Adjunct Associate Professor of Public Health Administration and Epidemiology*
B.S., 1939, M.D., 1945 (Rochester); M.P.H., 1957 (North Carolina)
JOHN CHARLES KONUS (1953), *Clinical Assistant Professor in Oral Diagnois and Treatment Planning*
D.D.S., 1937 (Emory)
GEORGE ELI KOURY (1960), *Clinical Assistant Professor of Medicine*
B.A., 1941 (North Carolina); M.D., 1944 (Tulane)
ENNO E. KRAEHE (1964), *Professor of History*
A.B., 1943, M.A., 1944 (Missouri); Ph.D., 1948 (Minnesota)
OLAF KRAFFT (1966), *Research Associate in Statistics*
Dipl. Math., 1964, Dr. rer. nat., 1965 (Münster)
ALBERT RAYMOND KRALL (1965), *Associate Professor of Biochemistry and Psychiatry*
B.S., 1950, M.S., 1952, Ph.D., 1954 (Wisconsin)
RUDOLPH JOSEPH KREMER (1964), *Assistant Professor of Music*
Mus. B., 1952 (Curtis Institute of Music); M.Mus., 1957, Ph.D., 1963 (Washington)
CLIFTON HOLLAND KREPS, JR. (1955), *Wachovia Professor of Banking (1955)*
B.A., 1941 (William and Mary); M.A., 1942 (North Carolina); Ph.D., 1948 (Duke)
MARTIN R. KRIGMAN (1966), *Assistant Professor of Pathology*
B.A., 1954 (Columbia); M.D., 1958 (Cornell)
ARNOLD KRUGMAN (1964), *Visiting Professor of Psychology*
B.S., 1947 (Long Island University); M.A., 1948 (New York University); Ph.D., 1952 (Kentucky)
GEORGE PAUL KUBICA (1964), *Adjunct Associate Professor of Parasitology (Field)*
B.A., 1951 (Cornell); M.S., 1952 (Michigan); Ph.D., 1955 (Wisconsin)
MITSURU KUBOTA (1966), *Visiting Scholar in Chemistry*
B.A., 1954 (Hawaii); M.S., 1958, Ph.D., 1960 (Illinois)
ROY RAYMOND KUEBLER, JR. (1958), *Professor of Biostatistics*
A.B., 1933 (Dickinson); M.A., 1947 (Pennsylvania); Ph.D., 1958 (North Carolina)
EDWARD J. KUENZIER (1965), *Associate Professor of Environmental Biology*
B.S., 1951 (Florida); M.S., 1953, Ph.D., 1959 (Georgia)
JOHN GOTTHOLD KUNSTMANN (1955), *Professor of German*
Cand. rev. min., 1916 (Concordia Theological Seminary); Ph.D., 1938 (Chicago)
[90]YUKIO KUROIWA (1964), *Research Associate in Pharmacology*
B.S., 1955 (Nagasaki University); Ph.D., 1962 (Kyushu University)
N. BRUCE KYLES (1959), *Lecturer in Psychiatry*
M.D., 1926, L.M.C.C., 1926 (Toronto)
RAYMOND CAMILLE LA CHARITÉ (1966), *Assistant Professor of French*
A.B., 1962 (Wayne State University); M.A., 1965, Ph.D., 1966 (Pennsylvania)

90. Resigned August 31, 1966.

VIRGINIA ANDING LA CHARITÉ (1966), *Lecturer in French*
A.B., 1957, A.M., 1962 (College of William and Mary); M.A., 1965, Ph.D., 1966 (Pennsylvania)

PETER ANTHONY LACHENBRUCH (1965), *Assistant Professor in Biostatistics*
B.A., 1958 (California); M.S., 1961 (Lehigh); Ph.D., 1965 (California)

[91]EDWIN ROBERT LACROSSE, JR. (1964), *Instructor of Psychology in Psychology and Psychiatry*
B.A., 1959 (Harvard); M.A., 1964 (North Carolina)

[92]JEAN EDER LACROSSE (1964), *Instructor of Psychology*
A.B., 1960 (Occidental College); M.A., 1964 (North Carolina)

ANDREW LACZKO (1957), *Clinical Instructor in Psychiatry*
M.D., 1950 (University of Munich, Germany)

JAMES CHRISTIAN LAMB III (1959), *Professor of Sanitary Engineering in the Department of Environmental Sciences and Engineering*
B.S.C.E., 1947 (Virginia Military Institute); M.S., 1948, S.E., 1952, Sc.D., 1953 (Massachusetts Institute of Technology)

GEORGE SHERMAN LANE (1937), *Kenan Professor of Germanic and Comparative Linguistics (1949)*
B.A., 1926, M.A., 1927 (Iowa); Ph.D., 1930 (Chicago)

JAMES FRANKLIN LANE (1962), *Instructor in Hospital Administration*
B.S., 1949 (North Carolina)

MARY TURNER LANE (1953-60; 1962), *Associate Professor of Education*
B.A., 1939 (Salem College); M.Ed., 1953 (North Carolina); D.Ed., 1962 (Duke)

FRANK T. LANG (1965), *Research Associate in Chemistry*
B.S., 1959 (St. Francis College); Ph.D., 1964 (Rensselaer Polytechnic Institute)

ROBERT DANA LANGDELL (1951), *Professor of Pathology*
M.D., 1948 (George Washington)

HAROLD QUENTIN LANGENDERFER (1953), *Professor of Accounting*
B.S., 1949 (Miami University); M.B.A., 1950 (Northwestern); D.B.A., 1954 (Indiana); C.P.A. (State of Indiana)

JOHN THOMAS LANGLEY (1964), *Clinical Instructor in Surgery*
A.B., 1958 (North Carolina); M.D., 1955 (Duke)

CORNELIUS LANSING (1957), *Assistant Professor of Psychiatry*
M.D., 1947 (Harvard)

DAVID THEODORE LAPKIN (1959), *Professor of Economics and Freshman-Sophomore Honors Program Adviser*
B.S., 1942 (Harvard); M.A., 1947, Ph.D., 1957 (Columbia)

BENNETT W. LAPRADE (1964), *Clinical Instructor in Obstetrics-Gynecology*
B.A., 1952, M.D., 1956 (Virginia)

JOHN EDGAR LARSH, JR. (1943), *Assistant Dean of the School of Public Health and Professor of the Department of Parasitology*
B.A., 1939, M.S., 1940 (Illinois); Sc.D., 1943 (Johns Hopkins)

AMULYA LAL LASKAR (1965), *Research Associate in Physics*
B.Sc., 1950, M.Sc., 1952 (Calcutta); Ph.D., 1960 (Illinois)

RENU CHAKRAVARTI LASKAR (1966), *Research Associate in Statistics*
B.A., 1950 (Patna); M.A., 1955 (Bihar); Ph.D., 1962 (Illinois)

JOHN WAYNE LASLEY, JR. (1910), *Professor of Pure Mathematics, Emeritus (1962)*
A.B., 1910, A.M., 1911 (North Carolina); Ph.D., 1920 (Chicago)

WILLIAM EDMUND LASSITER (1960), *Associate Professor of Medicine*
A.B., 1950, M.D., 1954 (Harvard)

HENRY ALLEN LATANÉ (1958), *Professor of Finance and Drexel Research Professor*
B.A., 1928 (Richmond); M.B.A., 1930 (Harvard); Ph.D., 1958 (North Carolina)

DONALD T. LAURIA (1965), *Instructor and Engineering Associate in the Department of Environmental Sciences and Engineering*
B.C.E., 1956 (Manhattan College); M.S.S.E., 1965 (Syracuse)

FRANK E. LAW (1961), *Visiting Professor of Public Health Administration*
D.D.S., 1931 (Minnesota); M.P.H., 1952 (Harvard)

RICHARD HEALD LEACH (1966), *Adjunct Professor of Public Health Education*
A.B., 1944 (Colorado); A.M., 1949, Ph.D., 1951 (Princeton)

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91. Resigned May 31, 1966.
92. Resigned June 30, 1966.

MALCOLM ROSS LEADBETTER (1963), *Associate Professor of Statistics*
B.S., 1953, M.Sc., 1954 (Otago); B.A., 1958, M.A., 1962 (Cambridge) Ph.D., 1963 (North Carolina)

JAMES WILLIAM LEASURE (1966), *Associate Professor of Economics and Population*
A.B., 1958 (New Mexico); Ph.D., 1962 (Princeton)

STURGIS ELLENO LEAVITT (1917), *Kenan Professor of Spanish (1945), Emeritus (1960)*
A.B., 1908 (Bowdoin); A.M., 1913, Ph.D., 1917 (Harvard); Litt.D., (Bowdoin; Davidson)

MAURICE WENTWORTH LEE (1956), *Professor of Economics and Business Administration and Dean of the School of Business Administration*
B.S., 1933 (Illinois Institute of Technology); Ph.D., 1939 (Chicago)

HUGH TALMAGE LEFLER (1935), *Kenan Professor of History (1955)*
A.B., 1921, A.M. (Trinity College); Ph.D., 1931 (Pennsylvania); LL.D., (Duke)

HARVEY EUGENE LEHMAN (1948), *Professor of Zoology*
A.B., 1941 (Maryville College); A.M., 1944 (North Carolina); Ph.D., 1948 (Stanford)

LILLIAN YOUNGS LEHMAN (1958), *Visiting Associate Professor of Zoology*
A.B., 1949 (Catawba); M.A., 1952, Ph.D., 1955 (North Carolina)

GEORGE MARTIN LEIBY (1964), *Clinical Associate Professor of Medicine and Preventive Medicine*
B.S., 1929 (North Carolina); M.D., 1931 (Vanderbilt); M.P.H., 1934 (Harvard); Dr.P.H., 1938 (Johns Hopkins)

DOROTHEA CROSS LEIGHTON (1965), *Clinical Associate Professor of Psychiatry and Professor of Mental Health*
A.B., 1930 (Bryn Mawr); M.D., 1936 (Johns Hopkins)

GERHARD EMANUEL LENSKI (1963), *Professor of Sociology and Research Professor in the Institute for Research in Social Science*
A.B., 1947, M.A., 1949, Ph.D., 1950 (Yale); LL.D., 1964 (Wittenberg)

[93]RICHARD IVOR LEVIN (1959), *Associate Professor of Industrial Management*
B.S. in Industrial Engr., 1951, M.S. in Industrial Engr., 1953 (North Carolina State); Ph.D., 1959 (North Carolina)

RONALD H. LEVINE (1963), *Clinical Assistant Professor of Pediatrics*
B.S., 1955 (Union College); M.D., 1959 (Downstate Medical Center, New York)

MARVIN I. LEVY (1966), *Research Associate in Maternal and Child Health*
B.B.A., 1959 (College of the City of New York)

[94]FLORIAN HENRY LEWANDOWSKI (1962), *Assistant Professor of Social Work*
A.B., 1954 (Marquette); M.S.W., 1957 (Connecticut)

CLARA M. LEWIS (1964), *Instructor in Nursing*
B.S., 1953 (Winthrop College); M.S., 1954 (Ohio)

CLAUDELINE PULLEN LEWIS (1964), *Assistant Professor of Clinical Social Work, Section of Allied Educational Programs and Clinical Assistant Professor of Psychiatry*
A.B., 1939 (Woman's College, North Carolina); M.S.W., 1941 (Western Reserve)

[95]ELOISE RALLINGS LEWIS (1953), *Professor of Nursing and Assistant Dean of the School of Nursing*
B.S.N., 1941 (Vanderbilt); R.N.; M.S.Ed., 1951 (Pennsylvania); Ed.D., 1963 (Duke)

HENRY WILKINS LEWIS (1946), *Professor of Public Law and Government*
A.B., 1937 (North Carolina); LL.B., 1940, (Harvard)

JAMES WILLIAM LEWIS (1964), *Cataloguer, Law Library*
B.A., 1950 (Bridgewater); M.A., 1959, M.S. in L.S., 1966 (North Carolina)

[96]RICHARD WARREN LIEBAN (1963), *Associate Professor of Anthropology and Research Associate in the Institute for Research in Social Science*
B.J., 1943 (Missouri); M.A., 1951, Ph.D., 1956 (Columbia)

RODDEY MILLER LIGON, JR. (1961), *Adjunct Associate Professor of Public Health Administration*
B.S., 1948, J.D., 1951 (North Carolina)

ALDEN E. LIND (1965), *Assistant Professor of Political Science and Technical Director of the Louis Harris Data Center*
B.A., 1960 (Reed); Ph.D., 1966 (Oregon)

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93. Absent on leave, September 1, 1966 through September 1, 1967.
94. Absent on leave, October 1, 1966 through August 31, 1967.
95. Resigned August 31, 1966.
96. Absent on leave, September 1, 1965 through September 1, 1967.

ROY LAWRENCE LINDAHL (1952), *Professor of Pedodontics*
B.S., 1950, D.D.S., 1950 (Southern California); M.S., 1952 (Michigan)

FORREST E. LINDER (1966), *Adjunct Professor of Biostatistics*
B.A., 1930, M.A., 1931, Ph.D., 1932 (State University of Iowa)

ROBERT BOYD LINDSAY (1947), *Clinical Assistant Professor of Medicine and Associate University Physician*
B.S., 1936 (Davidson); M.D., 1940 (Jefferson Medical College)

JOE BURTON LINKER (1918), *Professor of Mathematics, Emeritus (1964)*
A.B., 1918, A.M., 1920 (North Carolina); Ph.D., 1924 (Johns Hopkins)

ROBERT WHITE LINKER (1927), *Professor of Romance Languages, Emeritus (1965)*
A.B., 1925, A.M., 1928, Ph.D., 1933 (North Carolina)

LEWIS LIPSITZ (1964), *Assistant Professor of Political Science and Research Associate in the Institute for Research in Social Science*
A.B., 1957 (Chicago); M.A., 1959, Ph.D., 1964 (Yale)

BARBARA S. LIPTON (1966), *Clinical Assistant Professor of Psychiatry*
B.S., 1941 (Wisconsin); M.D., 1943 (Illinois)

MORRIS A. LIPTON (1959), *Professor of Psychiatry*
B.S., 1935 (City College of New York); Ph.M., 1937, Ph.D., 1939 (Wisconsin); M.D., 1948 (Chicago)

MYRON B. LIPTZIN (1965), *Instructor in Psychiatry*
A.B., 1955 (Columbia); M.D., 1959 (Rochester)

DORIS WATFORD LISTER (1964), *Instructor of Public Health Nursing and Assistant Professor of Nursing*
Dip. in Nursing, 1946 (Greenville General Hospital, Greenville, South Carolina); R.N.; B.S., 1961 (George Peabody); M.S., 1962 (Minnesota)

WILLIAM FREDERICK LITTLE (1956), *Professor of Chemistry*
B.S., 1950 (Lenoir Rhyne); M.A., 1952, Ph.D., 1954 (North Carolina)

JAMES EDWARD LITTLEFIELD (1966), *Lecturer in Business Administration*
B.S., 1954 (Kent State); M.B.A., 1957 (Chicago)

BEN FOHL LOEB, JR. (1964), *Assistant Professor of Public Law and Government*
A.B., 1955, LL.B., 1960 (Vanderbilt)

CLEMENT SEARL LOGSDON (1947), *Professor of Marketing*
B.S., 1924 (Georgetown); M.A., 1928, Ph.D., 1940 (Ohio State)

VINCENT MARK LOLORDO (1966), *Assistant Professor of Psychology*
A.B., 1962 (Brown); Ph.D., 1966 (Pennsylvania)

MARGARET S. LOMAX (1966), *Research Associate in Epidemiology*
A.B., 1965 (Coker)

ARTHUR HILL LONDON, JR. (1937), *Clinical Professor of Pediatrics*
B.S., 1925 (North Carolina); M.D., 1927 (Pennsylvania)

LAWRENCE FOUSHEE LONDON (1952), *Curator, Rare Book Collection, University Library*
A.B., 1931, A.M., 1933, Ph.D., 1936 (North Carolina)

WILLIAM LORD LONDON IV (1961), *Clinical Assistant Professor of Pediatrics*
B.S., 1952, M.D., 1955 (North Carolina)

DOROTHY ELIZABETH LONG (1952), *Assistant Librarian, Division of Health Affairs Library*
A.B., 1929 (Woman's College, North Carolina); M.A., 1942 (Wisconsin); B.S. in L.S., 1946 (Illinois)

EUGENE ROBERT LONG, JR. (1949), *Clinical Professor of Psychology in Psychiatry and Research Associate in the Institute for Research in Social Science*
A.B., 1946, A.M., 1947, Ph.D., 1950 (Virginia)

VIRGINIA LONG (1961), *Assistant Professor of Clinical Social Work, Section of Allied Educational Programs and Clinical Assistant Professor of Psychiatry*
A.B., 1936 (Goucher); M.S., 1940 (Western Reserve)

WILLIAM GROVES LONG (1959), *Dean of Men*
A.B., 1951, M.A., 1953 (West Virginia); B.D., 1957 (Yale)

RICHARD ELLIS LONSDALE (1962), *Associate Professor of Geography*
A.B., 1950, M.A., 1953 (U.C.L.A.); Ph.D., 1960 (Syracuse)

ANTHONY GEORGE LO RÉ (1960), *Assistant Professor of Spanish and Director, Foreign Language Laboratory*
A.B., 1948, M.A., 1949 (Louisiana State); Ph.D., 1965 (North Carolina)

ROGER W. LOTCHIN (1966), *Instructor in History and Modern Civilization*
B.S., 1957 (Millikin University); M.A., 1961 (Chicago)
MARTIN BERNARD LOUIS (1965), *Assistant Professor of Law*
A.B., 1956 (Princeton); LL.B., 1959, LL.M., 1965 (Harvard)
NICHOLAS AMISTEAD LOVE (1964), *Clinical Assistant Professor of Medicine*
B.S., 1949 (North Carolina); M.D., 1952 (Virginia)
BILLY WADE LOVINGOOD (1961), *Assistant Professor of Physical Education*
B.S., 1958 (Wake Forest); M.A., 1959, Ph.D., 1963 (North Carolina)
MARIE LOUISE LOWE (1963), *Instructor in Public Health Nursing*
B.S., 1947 (Woman's College, North Carolina); M.A., 1948 (Columbia)
JOHN CHARLES LUCCHESI (1965), *Assistant Professor of Zoology*
B.A., 1955 (LaGrange); M.S., 1958 (Georgia); Ph.D., 1963 (California)
CHARLES TOWNSEND LUDINGTON, JR. (1966), *Instructor in English*
B.A., 1957 (Yale); M.A., 1964 (Duke)
EDWARD JAMES LUDWIG (1966), *Assistant Professor of Physics*
B.S., 1958 (Fordham); M.S., 1960, Ph.D., 1963 (Indiana)
HERBERT ZACHAREUS LUND (1952), *Clinical Associate Professor of Medicine*
A.B., 1928 (Utah); M.D., 1931 (Pennsylvania)
JOHN JEFFERSON LUND (1965), *Clinical Instructor in Medicine*
B.A., 1953 (Virginia Military Institute); M.D., 1957 (Virginia)
CECIL RHODES LUPTON (1958), *Associate Professor of Oral Surgery*
D.D.S., 1954 (North Carolina)
NORVAL NEIL LUXON (1953), *Alumni Distinguished Professor of Journalism (1966), and Research Professor in the Institute for Research in Social Science*
B.S., 1923, M.A., 1931 (Ohio State); Ph.D., 1940 (U.C.L.A.)
CARL BLACKBURN LYLE, JR. (1962), *Assistant Professor of Medicine and Preventive Medicine*
A.B., 1953 (Princeton); M.D., 1957 (Columbia)
JOHN FRANKLIN LYNCH, JR. (1953), *Clinical Associate Professor of Pediatrics*
A.B., 1940 (North Carolina); M.D., 1944 (Jefferson)
JAMES WILEY LYNN, JR. (1954), *Clinical Assistant Professor of Pediatrics*
M.D., 1946 (Tulane)
ROLF P. LYNTON (1966), *Visiting Assistant Professor of Mental Health*
B.Sc., 1944 (London)
RICHARD COLTON LYON (1962), *Assistant Professor of English*
B.A., 1951 (Texas); B.A., 1953 (Cambridge); M.A., 1958 (Connecticut); Ph.D., 196[illegible] (Minnesota)
CLIFFORD PIERSON LYONS (1946), *Kenan Professor of English (1961) and Acting Secretary of the Faculty*
A.B., 1925, Litt.D. (Cornell College); Ph.D., 1932 (Johns Hopkins)
HUGH ALEXANDER MCALLISTER (1953), *Clinical Associate Professor of Obstetrics and Gynecology*
B.S., 1931 (Davidson); M.D., 1937 (Duke)
[97]FREDERICK BAYS MCCALL (1926), *Professor of Law*
A.B., 1915 (North Carolina); LL.B., 1928 (Yale)
MARVIN M. MCCALL III (1965), *Clinical Instructor in Medicine*
M.D., 1956 (North Carolina)
GERALD RALEIGH MACCARTHY (1922), *Professor of Geology and Geophysics, Emeritus (1965)*
A.B., 1921 (Cornell); A.M., 1924, Ph.D., 1926 (North Carolina)
PAULINE WAYNE MCCASKILL (1958), *Associate Professor of Nursing*
Dip. in Nursing, 1937 (Catawba Sanatarium, Virginia); R.N.; B.S.N.Ed., 1954 (Duke) M.A., 1958 (Columbia)
WALTER STUART MCCLELLAN (1954), *Clinical Lecturer in Physiology*
B.A., 1916 (Colgate); M.D., 1923 (Harvard)
HORTENSE KING MC CLINTON (1966), *Lecturer in Social Work*
A.B., 1939 (Howard); M.S.W., 1941 (University of Pennsylvania School of Social Work)
FRANCES SIMMONS MCCONNELL (1962), *Assistant Professor of Public Health Administration*
A.B., 1943 (Sweet Briar College); M.S.P.H., 1951, Ph.D., 1962 (North Carolina)

97. Retired July 1, 1966.

OWEN LINK MCCONNELL (1962), *Assistant Professor of Psychology*
B.S., 1957 (Duke); Ph.D., 1963 (Duke)

J. FRANK MCCORMICK (1964), *Associate Professor of Botany*
B.S., 1958 (Butler); M.S., 1960, Ph.D., 1961 (Emory)

GARY MASON MCCOWN (1966), *Instructor in English*
B.A., 1961 (Princeton); M.A., 1962 (Harvard)

FRANK WEBB MCCRACKEN, JR. (1966), *Clinical Instructor of Prosthodontics*
B.S., 1960, D.D.S., 1963 (North Carolina)

WILLIAM CARLTON MCCRARY (1963), *Associate Professor of Spanish*
A.B., 1951 (Florida); M.A., 1952, Ph.D., 1958 (Wisconsin)

HAROLD GRIER MCCURDY (1948), *Kenan Professor of Psychology (1963) and Research Professor in the Institute for Research in Social Science*
A.B., 1930, Ph.D., 1938 (Duke)

WILLIAM BENSON MCCUTCHEON, JR. (1961), *Clinical Instructor in Surgery*
A.B., 1948 (North Carolina); M.D., 1952 (Medical College of Virginia)

ROSALIE LARAMIE MCDONALD (1966), *Instructor in Physical Education*
B.S., 1949 (Indiana); M.A.T., 1966 (North Carolina)

[98]BRUCE MCDUFFIE (1965), *Research Associate in Chemistry*
A.B., 1942, M.A., 1946, Ph.D., 1947 (Princeton)

WALTER THOMPSON MCFALL, JR. (1961), *Associate Professor of Periodontology and Oral Pathology*
B.S., 1955, D.D.S., 1958 (North Carolina); M.S.D., 1961 (Washington)

DAVID MCFARLAND (1964), *Associate Professor of Economics and Director of Graduate Studies in Economics*
B.A., 1953 (Millsaps College); Ph.D., 1963 (Vanderbilt)

ELIZABETH FINLEY MACFIE (1964), *Instructor in Nursing*
B.S.N., 1962, R.N.; M.S., 1964 (North Carolina)

[98a]HARRY S. MCGAUGHEY (1965), *Professor of Obstetrics and Gynecology*
B.S., 1944, M.D., 1946 (Wisconsin)

[99]EDWARD GRAFTON MCGAVRAN (1947), *Dean of the School of Public Health, Emeritus (1963); Professor of Epidemiology*
A.B., 1924 (Butler); M.D., 1928 (Harvard Medical School); M.P.H., 1935 (Harvard School of Public Health); Sc.D. (Butler)

CLARENCE HENRY MCGREGOR (1946), *Burlington Industries Professor of Business Administration (1955)*
B.S., 1925 (Kansas State Teachers College of Emporia); M.B.A., 1930 (Kansas); Ph.D., 1937 (Northwestern)

FRED HENRY MACINTOSH (1959), *Associate Professor of English*
A.B., 1936 (South Carolina); M.A., 1941, Ph.D., 1955 (Duke)

KENNETH MURCHISON MCINTYRE (1948), *Head of the Bureau of Audio-Visual Education, Extension Division*
B.S., 1940 (Davidson); M.Ed., 1952 (North Carolina)

[100]MARIE J. MCINTYRE (1967), *Associate Professor of Nursing and Public Health Nursing*
Dip. in Nursing, 1940 (Samaritan Hospital School of Nursing, Troy, New York); R.N.; B.S., 1950, M.S., 1952 (Syracuse); M.S. in Hygiene, 1962 (Harvard)

FREDERICK EUGENE MCJUNKIN (1966), *Instructor and Engineering Associate in the Department of Environmental Sciences and Engineering*
B.C.E., 1955 (North Carolina State); M.S.S.E., 1961 (North Carolina)

JO ANN W. MCKAY (1966), *Instructor in Nursing*
B.S.N., 1961, R.N.; M.Ed., 1964 (Florida)

JOHN SASSER MCKEE, JR. (1954), *Lecturer in Psychiatry*
B.S., 1927 (North Carolina); M.D., 1929 (Pennsylvania)

ROBERT LAMBERT MCKEE (1946), *Professor of Chemistry*
B.S., 1938 (Rice); M.A., 1940, Ph.D., 1943 (Texas)

WILLIAM JOHN MCKEE (1926), *Professor of Education in Extension Teaching, Emeritus (1956)*
C.E., 1909 (Cornell); M.A., 1919, Ph.D., 1930 (Columbia)

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98. Resigned June 30, 1966.
98a. Died February 25, 1967.
99. Assigned to India with part-time teaching at University of North Carolina.
100. Appointment effective March 1, 1967.

ERNEST LLOYD MACKIE (1921), *Professor of Mathematics, Emeritus (1964)*
A.B., 1917 (North Carolina); A.M., 1920 (Harvard); Ph.D., 1927 (Chicago)
LOREN GREENWOOD MACKINNEY (1958), *Assistant Professor of Pediatrics*
B.S., 1942, M.D., 1945 (Harvard)
ALSI ROBINETTE MCKINNON (1959-63; 1965), *Assistant Professor of Social Work*
B.S., 1938 (Wisconsin); M.A., 1950 (Chicago)
WILLIAM ALBERT MCKNIGHT (1935), *Professor of Spanish*
B.S., 1932 (Davidson); A.M., 1937, Ph.D., 1951 (North Carolina)
GAIL HAGAMAN MCLEAN (1964), *Instructor in Dental Hygiene*
B.S., 1963 (North Carolina)
WILLIAM WOODARD MCLENDON (1957-58; 1963), *Visiting Lecturer in Pathology*
A.B., 1953, M.D., 1956 (North Carolina)
MARY MARGARET MCLEOD (1953), *Clinical Instructor in Pediatrics*
B.S., 1932 (North Carolina); M.D., 1935 (Vanderbilt)
ELIZABETH ANNE MCMAHAN (1961), *Associate Professor of Zoology*
A.B., 1946, M.A., 1948 (Duke); Ph.D., 1960 (Hawaii)
ELIZABETH LOVELL MCMAHAN (1956), *Associate Professor of Public Health Education*
B.S., 1943 (Nebraska State Teachers College); M.S.P.H., 1944 (North Carolina)
RICHARD RALEIGH MCMAHON (1963), *Instructor in Public Law and Government*
A.B., 1957, M.A., 1963 (Ohio)
CAMPBELL WHITE MCMILLAN (1963), *Assistant Professor of Pediatrics*
B.S., 1948 (Wake Forest); M.D., 1952 (Bowman Gray)
DOUGALD MACMILLAN (1919), *Kenan Professor of English (1951)*
A.B., 1918, A.M., 1920, Ph.D., 1925 (North Carolina)
DOUGALD MCMILLAN III (1966), *Instructor in English*
B.A., 1959 (Northwestern); M.A., 1960 (Wisconsin)
JOHN TAYLOR MCMILLAN (1964), *Assistant Professor of Public Law and Governmen*
A.B., 1960 (North Carolina); M.A., 1961 (Yale); J.D., 1964 (Chicago)
JOHN SHERIDAN MAC NERNEY (1952), *Professor of Mathematics*
B.A., 1948, Ph.D., 1951 (Texas)
[101]DANIEL ALLAN MACPHERSON (1923), *Professor of Bacteriology*
Ph.B., 1919, Sc.M., 1920 (Brown); Ph.D., 1929 (Chicago)
SAMUEL DACE MCPHERSON, JR. (1952), *Clinical Professor of Surgery (Ophthalmology*
A.B., 1940 (North Carolina); M.D., 1943 (Johns Hopkins)
WILLIAM ASHLEY MCQUEEN III (1962), *Associate Professor of English*
B.A., 1949 (Vanderbilt); M.A., 1952 (New Mexico); Ph.D., 1962 (Illinois)
MICHAEL ROGERS MCVAUGH (1964), *Assistant Professor of History and Moder Civilization*
A.B., 1960 (Harvard); M.A., 1962, Ph.D., 1965 (Princeton)
JOHN WILLIAM MADDEN (1966), *Instructor in Surgery*
B.S., 1955 (Yale); M.D., 1958 (Harvard)
LYNN GRAY MADDRY (1966), *Adjunct Associate Professor of Parasitology (Field)*
B.S., 1931 (North Carolina State); M.S.P.H., 1942, Ph.D., 1948 (North Carolina)
ROBERT A. MAH (1964), *Assistant Professor of Environmental Microbiology, Schoc of Public Health*
A.B., 1957, M.A., 1958, Ph.D., 1963 (California)
EDWARD MAJCHROWICZ (1963), *Clinical Assistant Professor of Psychiatry*
B.Sc., 1948 (University of Birmingham, England); Ph.D., 1959 (McGill)
GEORGE PHILIP MANIRE (1950), *Professor of Bacteriology*
B.S., 1940, M.S., 1941 (North Texas State College); Ph.D., 1949 (California)
ISAAC VAUGHN MANLY (1954), *Clinical Instructor in Surgery*
B.S., 1944 (North Carolina); M.D., 1946 (Harvard)
JAMES HOLLOWELL MANLY, JR. (1954), *Clinical Instructor in Surgery*
B.S., 1944 (North Carolina); M.D., 1946 (Pennsylvania)
VIRGIL IVOR MANN (1950), *Professor of Geology*
B.A., 1942 (Macalester College); Ph.D., 1950 (Wisconsin)
WILLIAM ROBERT MANN (1949), *Professor of Mathematics*
A.B., 1941 (Rochester); Ph.D., 1949 (California)

101. Retired July 1, 1966.

ERRIT VAN ROOYEN MARAIS (1966), *Engineering Associate and Instructor in the Department of Environmental Sciences and Engineering*
Dip. in Mechanical Engineering, 1950 (Uitenhage Technical College); B.Sc., 1955 (Cape Town); Dip. in Public Health Engineering, 1963 (Imperial College, London)

EADDY MAREADY (1963), *Research Associate in Epidemiology*
Cert. in F.A., 1953 (St. Mary's); B.A., 1956 (North Carolina)

[102]ALLAN WHITLOCK MARKHAM (1961), *Assistant Professor of Public Law and Government*
A.B., 1954, LL.B., 1961 (North Carolina)

[103]EDWIN CARLYLE MARKHAM (1934), *Smith Professor of Chemistry (1951)*
A.B., 1923 (Trinity College); Ph.D., 1927 (Virginia)

ANDY COLE MARKS (1964), *Assistant Professor Department of Pedodontics*
D.D.S., 1933 (Atlanta-Southern Dental College); M.S., 1963 (North Carolina)

NITA MARTEN (1964), *Assistant Professor of Oriental Languages*
A.B., 1961, Ph.D., 1964 (Wisconsin)

ERTHE MARIE MARTI (1963), *Professor of Classics*
Licence ès lettres, 1925 (University of Lausanne, Switzerland); M.A., 1926, Ph.D., 1933 (Bryn Mawr)

[104]DAN ANDERSON MARTIN (1957), *Associate Professor of Preventive Medicine and Medicine*
B.S., 1949 (North Carolina); M.D., 1952 (Harvard)

[UBERT MILTON MARTIN, JR. (1960), *Associate Professor of Classics*
A.B., 1954 (Chattanooga); M.A., 1955, Ph.D., 1958 (Johns Hopkins)

[105]JOHN DANHOUSE MARTZ III (1963), *Associate Professor of Political Science and Associate Director of the Institute of Latin American Studies*
B.A., 1955 (Harvard); M.A., 1960 (George Washington); Ph.D., 1963 (North Carolina)

OBERT FRANKLIN MARZKE (1966), *Research Associate in Physics*
B.A., 1959 (Princeton); Ph.D., 1966 (Columbia)

[106]JULIAN DEWEY MASON, JR. (1960), *Assistant Professor of English and Director of Student Aid*
A.B., 1953 (North Carolina); M.A., 1954 (George Peabody College For Teachers); Ph.D., 1962 (North Carolina)

EGINALD G. MASON, JR. (1965), *Assistant Professor of Pathology*
B.S., 1957, M.D., 1962, Ph.D., 1964 (North Carolina)

ILTON MASON (1949), *Professor of Music*
A.B., 1937, A.M., 1947, Ph.D., 1949 (North Carolina)

OSALIE MCNEILL MASSENGALE (1957), *Head Cataloguer, Division of Health Affairs Library*
A.B., 1937 (Mount Holyoke); M.A., 1939, B.S. in L.S., 1955 (North Carolina)

LTA MAE MAST (1966), *Associate Professor of Public Health Education*
B.Ed., 1942 (Illinois State); M.S.P.H., 1945, Ph.D., 1966 (North Carolina)

OHZOH MASUDA (1966), *Visiting Research Assistant Professor of Physics*
B.E., 1954 (Osaka University, Japan); M.E., 1956, D.E., 1965 (Osaka University Graduate School, Japan)

ETTY PHELPS MATHEWS (1966), *Visiting Professor of Public Health Education*
R.N., 1940 (St. Elizabeth's Hospital); A.A., 1950 (Santa Rosa Junior College); B.S., 1952, M.P.H., 1953, Ph.D., 1960 (California)

LIFTON MATTHEWS (1965), *Instructor of Music*
B.S., 1956, M.S., 1958 (Juilliard School of Music)

ONALD ROWE MATTHEWS (1957), *Professor of Political Science and Research Professor in the Institute for Research in Social Science*
A.B., 1948, M.A., 1951, Ph.D., 1953 (Princeton)

ORMAN W. MATTIS (1947), *Professor of English*
A.B., 1926 (Pittsburgh); M.A., 1929 (Cornell)

LBERT MCLEAN MATTOCKS (1966), *Professor of Pharmacy*
B.S., 1942 (North Carolina); Ph.D., 1945 (Maryland)

ETTY FULLER MAXWELL (1962), *Instructor in Medical Technology (Bacteriology)*
B.A., 1951 (Woman's College, North Carolina)

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102. Resigned June 30, 1966.
103. Died July 11, 1966.
104. Absent on leave, September 1, 1966 through August 31, 1967.
105. Absent on leave, 1966-1967.
106. Resigned August 31, 1966.

ALTON RAY MAYBERRY (1965), *Clinical Instructor in Psychiatry*
B.S., 1953 (Kentucky); M.D., 1956 (Louisville)

HARVEY EDWARD MAYBERRY (1964), *Assistant Professor of Anatomy*
B.S., 1958 (Tennessee Polytechnic Institute); Ph.D., 1964 (Mississippi)

WILLIAM FRED MAYES (1963), *Professor of Public Health Administration and Dean of the School of Public Health*
B.S., 1936, M.D., 1938 (Kansas); M.P.H., 1948 (Harvard)

JACK ALAN MENIUS (1965), *Clinical Assistant Professor of Pedodontics*
B.S., 1958, D.D.S., 1959, Certificate in Pedodontics, 1961 (Virginia)

CHARLOTTE DAVIS MERITT (1957), *Instructor in Medical Technology (Bacteriology)*
A.B., 1941 (College of Notre Dame)

ANN REID MERZBACHER (1966), *Lecturer in Mathematics*
A.B., 1950 (Duke)

EUGEN MERZBACHER (1952), *Professor of Physics*
Licentiate Diploma, 1943 (Istanbul); A.M., 1948, Ph.D., 1950 (Harvard)

ANCEL CLYDE MEWBORN (1961), *Associate Professor of Mathematics*
A.B., 1954, M.A., 1957, Ph.D., 1959 (North Carolina)

GEORGE W. MEYER (1958), *Clinical Instructor in Surgery (Ophthalmology)*
B.A., 1942 (North Carolina); M.D., 1951 (Duke)

HAROLD DIEDRICH MEYER (1921), *Taylor Grandy Professor of the Art and Philosophy of Living (1962), Professor of Sociology and Recreation Administration, and Research Professor in the Institute for Research in Social Science, Emeritus (1965)*
A.B., 1912, A.M., 1916 (Georgia); LL.D. (Florida Southern College); R.S.D. (Salem College, Salem, W. Va.); L.H.D. (Catawba)

WILLIAM N. MICHAL, JR. (1965), *Clinical Instructor in Pediatrics*
B.S., 1957, M.D., 1960 (North Carolina)

VASA D. MIHAILOVICH (1961), *Assistant Professor of the Slavic Languages and Literature*
B.A., 1956, M.A., 1957 (Wayne State); Ph.D., 1966 (California)

AUGUSTUS TAYLOR MILLER, JR. (1939), *Professor of Physiology*
B.S., 1931, M.S., 1933 (Emory); Ph.D., 1939 (Michigan); M.D., 1953 (Duke)

BRADFORD MILLER (1959), *Research Associate in the Department of Environmental Sciences and Engineering, School of Public Health*
B.S., 1948, M.S., 1950 (Stetson); Ph.D., 1957 (North Carolina)

C. ARDEN MILLER (1966), *Vice Chancellor, Health Sciences, and Professor in the School of Medicine*
M.D., 1948 (Yale)

E. J. MILLER (1966), *Research Associate in Epidemiology*
A.B., 1965 (North Carolina)

HARRIETT PLUMMER MILLER (1966), *Research Associate in Epidemiology*
B.S., 1958 (North Carolina College)

HILTON DAVID MILLER (1964), *Visiting Associate Professor of Statistics*
B.Sc., 1953 (Witwatesarand); B.A., 1955, Diploma, 1956, Ph.D., 1963 (Cambridge)

HORACE WILLIAM MILLER, JR. (1958), *Clinical Assistant Professor of Medicine*
B.S., 1947 (Wake Forest); M.D., 1951 (Bowman Gray)

MILTON LEONARD MILLER (1959), *Professor of Psychiatry*
A.B., 1925, M.D., 1929 (Harvard)

ROBERT ALFRED MILLER (1955), *Assistant Professor of Library Science*
A.B., 1950, B.S. in L.S., 1953, M.A., 1953 (North Carolina)

ROBERT MOATS MILLER (1956), *Professor of History*
B.A., 1947 (Grinnell); M.A., 1949, Ph.D., 1955 (Northwestern)

SARAH ANN MILLER (1963), *Assistant Professor of Physical Therapy*
B.S., 1953 (Notre Dame College); Cert. P.T., 1954 (Northwestern); M.A., 1963 (Stanford)

JERRY LEATH MILLS (1965), *Instructor in English*
A.B., 1960 (North Carolina); A.M., 1961 (Harvard)

CHARLES FREMONT MILNER (1937), *Professor of Education in Extension Teaching and Director of the Extension Division*
A.B., 1933 (Guilford); A.M. in Ed., 1941 (North Carolina)

JOHN W. MINEAR (1965), *Visiting Assistant Professor of Geology*
B.A., 1960, Ph.D., 1964 (Rice)

ONALD WILLIAM MISCH (1963), *Assistant Professor of Zoology*
B.S., 1953 (Northeastern); M.S., 1958, Ph.D., 1963 (Michigan)
ONTE GEORGE MISKA (1951), *Professor of Crown and Bridge Prosthodontics*
D.D.S., 1937 (Minnesota)
AVID LEE MITCHELL (1964), *Clinical Assistant Professor of Anatomy*
A.B., 1958 (Duke); D.D.S., 1959, M.S., 1961 (North Carolina)
ARL NELSON MITCHELL (1962), *Associate Professor of Physics*
B.A., 1949, M.S., 1951 (Iowa); Ph.D., 1955 (Minnesota)
ENNETH EDWARD MITCHUM (1965), *Instructor in Crown and Bridge Prosthodontics*
B.S., 1961, D.D.S., 1965 (North Carolina)
MIE MODIGH (1966), *Instructor in Nursing*
B.S., 1957 (Connecticut); R.N.; M.S.N., 1966 (North Carolina)
ANNIE JOSEPH MOFFIE (1962), *Associate Professor of Business Administration*
B.S., 1936, M.S., 1937, Ph.D., 1940 (Pennsylvania State)
[107]HAROLD WAYNE MOHORN (1964), *Instructor in Operative Dentistry and Endodontics*
B.A., 1958, D.D.S., 1964 (North Carolina)
ACK E. MOHR (1958), *Clinical Assistant Professor of Obstetrics and Gynecology*
A.B., 1949 (North Carolina); M.D., 1953 (Tufts)
EATRICE BELL MONGEAU (1962), *Instructor in Public Health Nursing*
B.S.P.H.N., 1955, M.P.H., 1956 (North Carolina)
AVID GEETING MONROE (1947), *Professor of Political Science*
LL.B., 1926 (Baldwin-Wallace College); Ph.B., 1930 (Chicago); Ph.D., 1940 (Northwestern)
[108]JOHN THADDEUS MONROE, JR. (1961), *Assistant Professor of Psychiatry*
B.S., 1951 (Davidson); M.D., 1955 (North Carolina)
ONALD MALVIN MONSON (1963), *Clinical Assistant Professor of Radiology*
B.S., 1952, M.D., 1955 (Wisconsin)
OYCE LEE MONTGOMERY (1965), *Instructor in Anatomy*
B.A., 1955 (Virginia); M.S., 1960, Ph.D., 1963 (West Virginia)
RANK JAMES MONTROSE (1961), *Clinical Assistant Professor of Medicine*
A.B., 1914, B.S., 1915, M.D., 1921 (Syracuse)
ARY LEEPER MOODY (1964), *Instructor in Nursing*
Dip. in Nursing, 1945 (Baptist Hospital, Winston-Salem); R.N.; B.S.N.Ed., 1950 (Medical College of Virginia); M.P.H., 1963 (North Carolina)
AX D. MOODY (1966), *Adjunct Associate Professor of Parasitology (Field)*
A.B., 1948, M.A., 1949, Ph.D., 1953 (Kansas)
ORIS JACQUELINE MOORE (1966), *Research Associate in Maternal and Child Health*
B.A., 1966 (Queens)
ARGARET CATHARINE MOORE (1960), *Associate Professor of Nursing*
B.S., 1935 (Woman's College, North Carolina); M.A., 1939 (New York University); Dip. in Nursing, 1944 (Bellevue, New York); R.N.; M.S., 1960 (North Carolina)
ARGARET LEE MOORE (1957), *Associate Professor of Physical Therapy and Assistant Professor of Public Health Administration*
B.S., 1942 (Madison); Cert. P.T., 1943 (Walter Reed); M.S., 1949 (Medical College of Virginia)
RA ELIZABETH MOORE (1964), *Research Associate in Information Science*
A.B., 1954 (North Carolina)
ILLIAM J. MOORE (1966), *Adjunct Professor of Maternal and Child Health*
A.B., 1936 (Simpson); M.D., 1938 (Iowa)
ONALD WESSON MORAN (1966), *Assistant Professor of English*
B.A., 1958 (Colby College); M.A., 1962, Ph.D., 1966 (Louisiana State)
JCIA CAMERON MORGAN (1958), *Associate Professor of English*
B.A., 1931, M.A., 1937, Ph.D., 1954 (Louisiana State)
[109]LUCY SHIELDS MORGAN (1942), *Professor of Public Health Education*
A.B., 1922, M.S., 1932 (Tennessee); M.A., 1929 (Columbia); Ph.D., 1938 (Yale)
HOMAS SELLERS MORGAN, JR. (1966), *Instructor in History and Modern Civilization*
A.B., 1957 (Davidson); M.A., 1962 (Duke)

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107. Resigned September 30, 1966.
108. Resigned July 31, 1966.
109. Retired June 30, 1966.

110WILLIAM GARDNER MORGAN (1937), *Clinical Assistant Professor of Medicine and Associate University Physician*
A.B., 1927 (North Carolina); M.D., 1931 (Pennsylvania)

CHARLES ELLIOT MORRIS (1961), *Associate Professor of Neurological Medicine*
B.A., 1950, M.A., 1951 (Denver); M.D., 1955 (Colorado)

JAMES FRANCIS MORRIS (1957), *Clinical Instructor in Pediatrics*
B.S., 1949 (North Carolina); M.D., 1952 (Louisville)

NAOMI MINNER MORRIS (1962), *Assistant Professor of Maternal and Child Health and Clinical Assistant Professor of Pediatrics, School of Medicine*
B.A., 1952, M.D., 1955 (Colorado); M.P.H., 1959 (Harvard)

WALTER SMITH MORRIS, JR. (1966), *Instructor of Periodontology and Oral Pathology*
B.S., 1963, D.D.S., 1966 (North Carolina)

111WARREN MORRIS (1957), *Instructor in Physical Education*
B.A., 1954, B.S., 1955 (State College of Iowa)

HUGH MAXWELL MORRISON (1964), *Clinical Instructor in Surgery*
B.S., 1953 (Davidson); M.D., 1957 (North Carolina)

JOSEPH L. MORRISON (1940), *Professor of Journalism*
A.B., 1940 (North Carolina); A.M., 1958 (Columbia); Ph.D., 1961 (Duke)

JOHN CHARLES MORROW III (1949), *Professor of Chemistry and Dean of the College of Arts and Sciences and the General College*
S.B., 1944 (North Carolina); Ph.D., 1949 (Massachusetts Institute of Technology)

OLIN TERRELL MOUZON (1939), *Professor of Economics*
B.S. in Commerce, 1933 (Southern Methodist); Ph.D., 1940 (North Carolina)

HELMUT CHARLES MUELLER (1966), *Assistant Professor of Zoology*
B.S., 1953, M.S., 1958, Ph.D., 1962 (Wisconsin)

JAMES JOSEPH MULLEN (1959), *Professor of Journalism and Research Professor in the Institute for Research in Social Science*
B.B.A., 1947, M.A., 1949, Ph.D., 1954 (Minnesota)

PAUL LEWIS MUNSON (1965), *Professor of Pharmacology*
B.A., 1933 (Antioch); M.A., 1937 (Wisconsin); Ph.D., 1942 (Chicago); M.A. (Hon 1955 (Harvard)

JAMES L. MURPHY (1964), *Assistant Professor of Economics*
B.S., 1961 (Spring Hill College); M.S., 1963, Ph.D., 1964 (Purdue)

THOMAS LYNCH MURPHY (1959), *Clinical Associate Professor of Medicine*
A.B., 1940 (North Carolina); M.D., 1943 (Harvard)

HENRY VON MURRAY, JR. (1959), *Associate Professor of Crown and Bridge Prosthodontics*
B.S., 1954, D.D.S., 1957 (North Carolina)

ROYCE WILTON MURRAY (1960), *Associate Professor of Chemistry*
B.S., 1957 (Birmingham Southern College); Ph.D., 1960 (Northwestern)

WILLIAM JAMES MURRAY (1959; 1964), *Assistant Professor of Surgery*
B.S., 1955, Ph.D., 1959 (Wisconsin); M.D., 1962 (North Carolina)

FRANCES BANDY MUTH (1966), *Instructor in Clinical Social Work, Section of Allied Educational Programs*
A.B., 1946 (Meredith); M.S.W., 1964 (North Carolina)

AKIRA NAKAMURA (1966), *Visiting Assistant Professor of Information Science*
B.A., 1953 (Hiroshima University); Ph.D., 1963 (Nagoya University)

N. KRISHNAN NAMBOODIRI (1966), *Assistant Professor of Sociology and Research Associate in the Institute for Research in Social Science*
B.Sc., 1951, M.Sc., 1953 (Kerala University, India); M.A., 1961, Ph.D., 1963 (Michigan)

ARNOLD SAMUEL NASH (1947), *Professor of the History and Sociology of Religion*
B.Sc., 1928, M.Sc., 1930, M.A., 1933 (Liverpool); M.Sc. Econ., 1937 (London); D.D. 1946 (Coe College)

ETHEL M. NASH (1966), *Clinical Associate Professor of Obstetrics and Gynecology*
A.B., 1931 (University of Liverpool); M.A., 1949 (North Carolina)

ELIZABETH STUDLEY NATHANS (1966), *Lecturer in History and Modern Civilization*
B.A., 1962 (Vassar College); M.A., 1964, Ph.D., 1966 (Johns Hopkins)

WALTER D. NAVIN, JR. (1965), *Associate Professor of Law*
A.B., 1947 (Cornell College); J.D., 1956 (Iowa); LL.M., 1964 (New York University)

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110. Resigned July 31, 1966.
111. Resigned February 15, 1966.

CHARLENE M. NELSON (1961), *Assistant Professor of Physical Therapy*
Cert. P.T., 1951 (Medical College of Virginia); B.S., 1951 (William and Mary); M.A., 1964 (Duke)

JOHN KENDALL NELSON (1959-61; 1962), *Assistant Professor of History*
B.A., 1955 (Northwestern); M.A., 1956 (North Carolina); Ph.D., 1962 (Northwestern)

KENNETH RAYMOND NELSON (1965), *Assistant Professor of History and Modern Civilization*
B.A., 1956 (Connecticut); M.A., 1962 (Georgetown); Ph.D., 1966 (Virginia)

ROBERT MELLINGER NELSON (1953), *Professor of Orthodontics*
B.S., 1940, D.D.S., 1950, M.S., 1951 (Iowa)

VIRGINIA MARGARET NELSON (1960), *Associate Professor of Public Health Nursing*
B.A., 1946 (Stanford); B.S., 1949 (Minnesota); M.P.H., 1955 (Pittsburgh)

PETER BJORN NEMENYI (1965), *Research Associate in Statistics*
M.A., 1952, Ph.D., 1963 (Princeton)

KENNETH NESS (1941), *Resident Artist and Professor of Art*
Diploma, 1932 (The Art Institute of Chicago)

WILLIAM S. NEWMAN (1945), *Alumni Distinguished Professor of Music (1962)*
B.S., 1933, M.A., 1935, Ph.D., 1939 (Western Reserve)

BOYD LEE NEWNAM (1964), *Instructor in Physical Education and Assistant Track and Cross Country Coach*
A.B., 1957, M.Ed., 1958 (North Carolina)

JAMES FREDERICK NEWSOME (1956), *Associate Professor of Surgery*
A.B., 1944 (North Carolina); M.D., 1949 (Vanderbilt)

GEORGE EDWARD NICHOLSON, JR. (1948), *Professor of Statistics and Research Professor in the Institute for Research in Social Science*
A.B., 1940, A.M., 1941, Ph.D., 1948 (North Carolina)

MARIANNA NICHOLSON (1964), *Instructor in Clinical Social Work, Section of Allied Educational Programs*
A.B., 1937 (Duke); M.S., 1960 (North Carolina)

SALLY WINN NICHOLSON[112] (1964), *Assistant Professor of Nursing*
B.S.N., 1955 (North Carolina); R.N.; M.N., 1961 (Emory)

HIPOLITO V. NINO (1963), *Assistant Professor of Medicine and Biochemistry and Director of the Clinical Biochemistry Laboratory, North Carolina Memorial Hospital*
M.S., 1950 (Nat. Univ. of Colombia); M.S., 1952, Ph.D., 1958 (Wisconsin)

THOMAS WYATT NOONAN (1962), *Assistant Professor of Physics*
B.S., 1955, Ph.D., 1961 (California Institute of Technology)

JOHN WILLIAM ROY NORTON (1938-46; 1948), *Visiting Professor of Public Health Administration*
A.B., 1920 (Duke); M.D., 1928 (Vanderbilt); M.P.H., 1936 (Harvard School of Public Health)

JOSEPH ANTHONY NOVELLINE (1965), *Lieutenant, United States Navy; Assistant Professor of Naval Science*
B.S., 1962 (Tufts)

SYLVANUS WILLIAM NYE (1959; 1966), *Assistant Professor of Pathology*
A.B., 1952 (Hamilton College); M.D., 1957 (Rochester)

PAUL ARNOLD OBRIST (1960), *Associate Professor of Psychology in the Departments of Psychology and Psychiatry*
B.S., 1953 (Cornell); Ph..D., 1958 (Rochester)

GEORGE W. O'DOM (1965), *Research Associate in Chemistry*
B.A., 1962 (California); Ph.D., 1966 (Arizona)

HOWARD THOMAS ODUM (1966), *Professor of Zoology and Botany and Professor of Ecology in the Department of Environmental Sciences and Engineering*
A.B., 1947 (North Carolina); Ph.D., 1951 (Yale)

ELMER ROSENTHAL OETTINGER, JR. (1957), *Lecturer in Public Law and Government*
B.A., 1934, LL.B., 1939, M.A., 1952, Ph.D., 1966 (North Carolina)

LILY OEY (1966), *Research Associate in Epidemiology*
B.A., 1961 (Institut Teknologie Bandung, Indonesia)

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112. Absent on leave, September 1, 1966 through September 31, 1967.

[113]DANIEL ALEXANDER OKUN (1952), *Professor of Sanitary Engineering in the Department of Environmental Sciences and Engineering*
B.S.C.E., 1937 (Cooper Union Institute of Technology); M.S., 1938 (California Institute of Technology); Sc.D., 1948 (Harvard)

THEODORE RICHARD OLDENBURG (1962), *Associate Professor of Pedodontics*
D.D.S., 1957, M.S., 1962 (North Carolina)

[114]FLOY THEODORE OLDHAM, JR. (1962), *Clinical Instructor in Prosthodontics*
B.S., 1954, D.D.S., 1957 (North Carolina)

MARY WILHELMINA OLIVER (1952), *Associate Professor of Law and Law Librarian*
A.B.. 1940 (Western Maryland College); B.S. in L.S., 1943 (Drexel Institute of Technology); LL.B., 1951 (North Carolina)

WILLIAM ANDERSON OLSEN (1923), *Professor of English*
A.B., 1923 (Cornell); A.M., 1928 (North Carolina)

[115]ROBERT EDMUND O'MALLEY, JR. (1965), *Assistant Professor of Mathematics*
B.S., 1960, M.S., 1961 (New Hampshire); Ph.D., 1965 (Stanford)

CARL RUEBEN OMAN (1962), *Clinical Professor, Emeritus and Special Consultant of Operative Dentistry and Endodontics*
D.D.S., 1914 (Minnesota)

CHARLES R. O'MELIA (1966), *Associate Professor of Sanitary Engineering in the Department of Environmental Sciences and Engineering*
B.C.E., 1955 (Manhattan College); M.S.E., 1956, Ph.D., 1963 (Michigan)

DAVID GOODWIN ONN (1966), *Research Associate in Physics*
B.Sc., 1958 (University of Bristol, England); Dip. Ed., 1960 (University of Oxford, England)

JERROLD ORNE (1957), *University Librarian and Chairman of the Library Division*
B.A., 1932, M.A., 1933 (Minnesota); Cert. 1935 (University of Paris, Sorbonne); Ph.D., 1939 (Chicago); B.S., 1940 (Minnesota)

THOMAS JAMES ORSAGH (1965), *Assistant Professor of Economics*
B.S., 1954, M.A., 1958, Ph.D., 1964 (Pennsylvania)

[116]JOHN COAN OTTS (1962), *Professor of Education and Active Dean of the School of Education*
A.B., 1930 (Wofford); M.A., 1931 (Vanderbilt); M.A., 1941, Ed.D., 1955 (Columbia)

[117]BEN OVERSTREET, JR. (1963), *Associate Professor of Public Law and Government*
LL.B., 1935 (Mercer); B.Sc., 1936 (Georgia)

JOSEPH STEPHEN PAGANO (1965), *Assistant Professor of Medicine and Bacteriology*
A.B., 1953 (Rochester); M.D., 1957 (Yale)

NANCY R. PAGANO (1966), *Research Associate in Parasitology*
B.A., 1955 (Antioch)

CARL VICTOR PAGE (1966), *Assistant Professor of Information Science*
B.S.E., 1960, M.S., 1961, Ph.D., 1965 (Michigan)

EVERETT D. PALMATIER (1949), *Kenan Professor of Physics (1959) and Vice Chancellor for Advanced Studies and Research*
B.Sc., 1938 (Manitoba); Ph.D., 1951 (Cornell)

JEFFRESS GARY PALMER (1952), *Professor of Medicine*
B.S., 1942, M.D., 1944 (Emory)

LEONARD PALUMBO, JR. (1952), *Professor of Obstetrics and Gynecology*
M.D., 1944 (Duke)

JAMES CLIFTON PARKE, JR. (1964), *Clinical Assistant Professor of Pediatrics*
B.A., 1949, M.D., 1954 (North Carolina)

FRED PARKER (1965) *Instructor in Hospital Administration*
A.B., 1958 (North Carolina)

JANE CURTIS PARKER (1964), *Lecturer in Social Work*
A.B., 1949, M.S.W., 1955 (North Carolina)

JOHN ALBERT PARKER (1946), *Professor of Planning*
S.B., 1931, M.Arch., 1933, M.C.P., 1946 (Massachusetts Institute of Technology)

JOHN WILLIAM PARKER (1934), *Professor of Dramatic Art, Associate Director and Business Manager of The Carolina Playmakers*
A.B. in Educ., 1930, A.M., 1937 (North Carolina)

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113. Absent on Kenan leave, July 1, 1966 through June 30, 1967.
114. Resigned June 30, 1966.
115. Absent on leave, 1966-1967.
116. Resigned August 31, 1966.
117. Absent on leave, February 1, 1966 to January 31, 1967.

LEONARD EMANUEL PARKER (1966), *Instructor in Physics*
A.B., 1960 (Rochester); A.M., 1962, Ph.D., 1966 (Harvard)

MABEL MARIE PARKER (1958), *Assistant Professor of Physical Therapy*
B.S., 1939 (Western Michigan); M.A., 1940 (Michigan); Cert. P.T., 1946 (Duke)

SAMUEL L. PARKER, JR. (1956), *Clinical Assistant Professor of Obstetrics and Gynecology*
A.B., 1938 (North Carolina); M.D., 1942 (George Washington)

WILLIAM PAXTON PARKER, JR. (1962), *Assistant Professor of Surgery*
B.A., 1952, M.D., 1956 (Vanderbilt)

FREDERICK MILTON PARKINS (1965), *Clinical Instructor of Pedodontics*
D.D.S., 1960 (Pennsylvania); M.S., 1965 (North Carolina)

ANNE PARRISH (1964), *Visiting Instructor of Public Health Administration*
B.S., 1941 (Woman's College, Greensboro)

GENE BLANCO PARRISH (1963), *Lecturer in Mathematics*
A.B., 1949, M.A., 1951 (North Carolina); Ph.D., 1962 (Duke)

[118]RALPH CLINTON PATRICK, JR. (1958), *Associate Professor of Epidemiology*
A.B., 1946 (North Carolina); A.M., 1952, Ph.D., 1954 (Harvard)

DANIEL WATKINS PATTERSON (1957), *Associate Professor of English*
A.B., 1949 (Duke); M.A., 1955, Ph.D., 1959 (North Carolina)

FRED GEER PATTERSON (1941), *Clinical Assistant Professor of Medicine*
A.B., 1933 (North Carolina); M.D., 1937 (Pennsylvania)

HUBERT CLIFTON PATTERSON, JR. (1950), *Associate Professor of Surgery*
A.B., 1936 (Duke); M.D., 1937 (Harvard)

JOSEPH FLANNER PATTERSON, JR. (1966), *Assistant Professor of Surgery*
A.B., 1938 (North Carolina); M.D., 1942 (Harvard)

THOMAS MCEVOY PATTERSON (1950), *Associate Professor of Dramatic Art and Staff Director of The Carolina Playmakers*
A.B., 1934, A.M., 1936 (Texas)

JAMES WELCH PATTON (1948), *Professor of History, Chief, Manuscripts Department, and Director of the Southern Historical Collection, University Library*
A.B., 1924 (Vanderbilt); A.M., 1925, Ph.D., 1929 (North Carolina)

CLARENCE WAYNE PATTY (1960), *Associate Professor of Mathematics*
B.S., 1954, M.A., 1958, Ph.D., 1960 (Georgia)

ROBERT B. PAYNE (1965), *Clinical Instructor in Medicine*
M.D., 1960 (North Carolina)

ERLE EWART PEACOCK (1920), *Professor of Accounting, Emeritus (1964)*
A.B., 1914 (Georgia); M.B.A., 1916 (Harvard); C.P.A. (State of North Carolina)

ERLE EWART PEACOCK, JR. (1956), *Professor of Surgery (Plastic)*
M.D., 1949 (Harvard)

WILLIAM HENRY PEACOCK (1946), *Professor of Physical Education*
A.B., 1932 (Maryville College); A.M., 1940, Ph.D., 1945 (North Carolina)

RICHARD LEHMER PEARSE (1940), *Clinical Assistant Professor of Obstetrics and Gynecology*
A.B., 1927 (Duke); M.D., 1931 (Harvard)

ERNEST ALEXANDER PEARSON, JR. (1963), *Clinical Associate Professor of Preventive Dentistry and Dental Science*
A.B., 1937 (Maryville); D.D.S., 1941 (Virginia); M.P.H., 1958 (North Carolina)

[119]WILLIAM ARTIS PEASE (1961), *Undergraduate Librarian, University Library*
A.B., 1959 (Harvard); M.S., 1961 (Simmons)

[119a]WILLIAM JAY PECK (1967), *Assistant Professor of Religion*
B.A., 1949 (Yale); B.D., 1954 (Princeton); Ph.D., 1962 (Harvard)

WILLIAM MERRILL PECK (1964), *Associate Professor of Epidemiology*
M.D., 1937 (Iowa); M.P.H., 1957 (North Carolina)

[120]NICHOLAS PEDIADITAKIS (1961), *Clinical Instructor in Psychiatry*
M.D., 1954 (University of Salonica, Greece)

CARL HAMILTON PEGG (1930), *Alumni Distinguished Professor of History (1961)*
A.B. in Educ., 1927, A.M., 1927, Ph.D., 1930 (North Carolina)

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118. Absent on leave, September 1, 1966 through September 1, 1967.
119. Resigned August 15, 1966.
119a. Appointment effective September 1, 1967.
120. Resigned July 1, 1966.

JAMES WORTH PENCE, JR. (1966), *Assistant Professor of English*
B.A., 1950, M.A., 1951 (Virginia); Ph.D., 1963 (Cornell)
MARCIA B. PENDERGRAPH (1963), *Research Associate in Parasitology*
B.S., 1958 (Kentucky); M.S.P.H., 1963 (North Carolina)
KENNETH LAWING PENEGAR (1962), *Associate Professor of Law*
A.B., 1954, LL.B. with Honors, 1961 (North Carolina); LL.M., 1962 (Yale)
TAI CHAN PENG (1965), *Instructor in Pharmacology*
M.D., 1959 (University of Geneva, Switzerland)
GEORGE DIAL PENICK (1949), *Professor of Pathology*
S.B., 1944 (North Carolina); M.D., 1946 (Harvard)
RALPH PENNIALL (1958), *Associate Professor of Biochemistry*
B.A., 1947 (Knox); M.S., 1950, Ph.D., 1953 (Iowa)
FRANCIS DEWITT PEPPER, JR. (1962), *Assistant Professor of Radiology*
B.S., 1952 (Davidson); M.D., 1956 (North Carolina)
MARIA PEREZ-REYES (1966), *Instructor in Psychiatry*
B.S., 1945 (Academie Hispano Mexicana); M.D., 1952 (Facultad de Medicina, U.N.A. de Mexico)
MARIO PEREZ-REYES (1961), *Assistant Professor of Psychiatry*
B.S., 1945 (Colegio Frances Morelos); M.D., 1952 (National University of Mexico)
JOSEPH H. PERLMUTT (1953), *Associate Professor of Physiology*
B.S., 1939 (College of Charleston); A.M., 1942 (North Carolina); Ph.D., 1950 (Princeton)
THOMAS S. PERRIN, JR. (1965), *Clinical Assistant Professor of Medicine*
M.D., 1943 (Johns Hopkins Hospital)
ARNOLD PERRY (1948), *Professor of Education*
A.B., 1926, Ed.M., 1933 (Duke); Ed.D., 1943 (Columbia)
IRVIN SAMUEL PERRY (1965), *Instructor in Medicine*
B.A., 1951 (Virginia Military Institute); M.D., 1955 (Medical College of Virginia)
WILLIAM DECATUR PERRY (1937), *Professor of Education*
A.B. in Educ., 1929 (North Carolina); M.A., 1934 (Columbia); Ed.D., 1937 (Teachers College, Columbia)
ANN DEHUFF PETERS (1953), *Associate Professor of Maternal and Child Health and Clinical Associate Professor of Pediatrics in the School of Medicine*
B.A., 1936 (New Mexico); B.S., 1937, M.S.S.W., 1938 (Simmons College); M.D., 1940 (Washington University)
RICHARD MORSE PETERS (1952), *Professor of Surgery*
B.S., 1943, M.D., 1945 (Yale)
[121]JEAN-PIERRE CLAUDE PETIT (1966), *Visiting Lecturer in English*
Ancien élève de l'Ecole Normale Supérieure, 1955, Agrege de l'Université, 1958 (University of Lyon)
MARIE-CLAIRE PETIT (1966), *Visiting Assistant Professor of French and Spanish*
Agrégation d'espagnol, 1959 (University of Paris)
BILLY JAMES PETTIS (1957), *Professor of Mathematics*
B.A., 1932 (Wofford); M.A., 1933 (North Carolina); Ph.D., 1937 (Virginia)
JANE H. PFOUTS (1965), *Instructor in Clinical Social Work*
B.A., 1943 (Notre Dame); M.S., 1951, M.S.W. (North Carolina)
RALPH WILLIAM PFOUTS (1952), *Professor of Economics*
A.B., 1942, A.M., 1947 (Kansas); Ph.D., 1952 (North Carolina)
ROBERT EDMOND PHAY (1965), *Assistant Professor of Public Law and Government*
B.A., 1960 (Mississippi); LL.B., 1963 (Yale)
PETER GEORGE PHIALAS (1953), *Professor of English*
B.A., 1938 (Northeast Missouri State Teachers College); M.A., 1939 (Missouri); Ph.D. 1948 (Yale)
CLARENCE EDWARD PHILBROOK (1947), *Professor of Economics*
A.B., 1936, Ph.D., 1949 (Chicago)
LESLIE E. PHILLABAUM (1963), *Editor-in-Chief of The University of North Carolina Press*
B.S., 1958, M.A. 1963 (Pennsylvania State University)
GUY BERRYMAN PHILLIPS (1936), *Professor of Education, Emeritus (1961)*
A.B., 1913 (North Carolina); M.A., 1942 (Columbia); D.Litt. (High Point College)
JAMES DICKSON PHILLIPS, JR. (1960), *Professor of Law and Dean of the School of Law*
B.S., 1943 (Davidson); J.D., 1948 (North Carolina)

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121. Teaching fall semester, 1966.

RICHARD C. PHILLIPS (1962), *Associate Professor of Education*
A.B., 1956, M.Ed., 1958 (North Carolina); Ph.D., 1962 (Northwestern)

ROBERT WESLEY PHILLIPS (1965), *Lecturer in Finance*
A.B., 1958 (Denison); M.B.A., 1962 (Ohio)

CLAUDE PIANTADOSI (1956), *Professor of Medicinal Chemistry and Associate Professor of Biochemistry*
B.S., 1949 (Brooklyn College); M.S., 1952 (Columbia); Ph.D., 1956 (North Carolina)

JAMES R. PICK, JR. (1965), *Assistant Professor of Comparative Pathology*
D.V.M., 1961 (Georgia)

RUPERT TARPLEY PICKENS (1965), *Assistant Professor of French*
A.B., 1961, M.A., 1964, Ph.D., 1966 (North Carolina)

JERRY CLINE PICKREL (1961), *Visiting Lecturer in Pathology*
M.D., 1958 (Tulane)

[122]WILLIAM WHATLEY PIERSON (1915), *Dean of the Graduate School, Emeritus (1957); Kenan Professor of History and Political Science (1959)*
A.B., 1910, A.M., 1911 (Alabama); M.A., 1912, Ph.D., 1916 (Columbia); Litt.D. (Boston); LL.D. (Washington and Lee)

PAUL JAN PINCKNEY (1961), *Assistant Professor of History and Modern Civilization*
B.S., 1954 (Davidson); M.A., 1959, Ph.D., 1962 (Vanderbilt)

LEO PINE (1965), *Adjunct Associate Professor of Parasitology (Field)*
B.S., 1943 (Arizona); M.S., 1948 (Wisconsin); Ph.D., 1952 (California)

MORTON ELI PIZER (1955), *Clinical Associate Professor of Pediatrics*
M.D., 1947 (Louisville)

KENNETH ARTHUR PODGER (1965; 1966), *Clinical Assistant Professor of Obstetrics and Gynecology*
A.B., 1937, M.D., 1941 (Duke)

MELVIN C. POLAND (1966), *Professor of Law*
B.S., 1940 (Kansas State University); LL.B., 1949 (Washburn); LL.M., 1950 (Michigan)

DANIEL HUBBARD POLLITT (1957), *Professor of Law*
A.B., 1943 (Wesleyan); LL.B., 1949 (Cornell)

WILLIAM SPROTT POLLITZER (1957), *Assistant Professor of Anatomy*
A.B., 1944, M.A., 1947 (Emory); Ph.D., 1957 (Columbia)

NORMAN ERNEST POMRENKE (1965), *Lecturer in Public Law and Government*
A.A., 1956 (Compton Junior College); B.S., 1958 (Michigan State); M.S., 1964 (Florida State)

DORIS THEODORE POOLE (1962), *Assistant Professor of Pharmacology and Assistant to the Director of the Center for Research in Pharmacology and Toxicology*
B.S., 1944 (Winthrop); Ph.D., 1962 (North Carolina)

HALLOWELL POPE (1961), *Assistant Professor of Sociology and Research Associate in the Institute for Research in Social Science*
A.B., 1951, M.A., 1957 (Chicago); Ph.D., 1963 (Michigan)

HUGH JUDSON PORTER (1955), *Assistant Professor in the Institute of Marine Sciences*
B.S., 1950 (Millersville Teachers College); M.Sc., 1956 (Delaware)

WILLIAM CARLYLE POWELL (1957), *Clinical Instructor in Pediatrics*
A.B., 1948 (North Carolina); M.D., 1952 (Bowman Gray)

WILLIAM STEVENS POWELL (1951), *Librarian, North Carolina Collection, University Library and Lecturer in History*
B.A., 1940, M.A., 1947, B.S. in L.S., 1947 (North Carolina)

ELLEN ELIZABETH POWER (1966), *Lecturer in Social Work*
B.A., 1951 (Miami); M.S.W., 1958 (North Carolina)

WILLIAM J. POWERS (1966), *Assistant Professor of English*
B.A., 1956, M.A., 1957, Ph.D., 1966 (Illinois)

ARTHUR JERGEN PRANGE, JR. (1957), *Associate Professor of Psychiatry*
B.S., 1947, M.D., 1950 (Michigan)

[123]CARLETON ESTEY PRESTON (1927), *Professor of Education, Emeritus (1945)*
A.B., 1899, A.M., 1900, Ph.D., 1902 (Harvard)

122. Died April 23, 1966.
123. Died December 21, 1965.

[124]DANIEL O'HAVER PRICE (1947), *Professor of Sociology and Director of the Institute for Research in Social Science*
B.S., 1939 (Florida Southern); A.M., 1942, Ph.D., 1948 (North Carolina)

ERIC FRANCIS PRICE (1966), *Mahlon K. Jordan Visiting Professor of Radio, Television, and Motion Pictures*
Dpl., 1956 (London University)

RUTH I. PRICE (1949), *Assistant Professor of Physical Education, Emeritus (1963)*
B.S., 1926 (Columbia); M.S., 1936 (Southern California)

THOMAS D. PRICE (1966), *Assistant Professor of Education*
A.B., 1952, M.A., 1959, Ed.D., 1966 (Stanford)

WILLIAM IVAN PROCTER (1963), *Clinical Instructor in Medicine*
M.D., 1957 (Duke)

[125]ARDELL MAE PROCTOR (1957), *Instructor in Medical Technology (Bacteriology)*
B.S., 1945, M.S., 1950 (Minnesota)

[126]JAMES WARREN PROTHRO (1960), *Professor of Political Science, Research Professor in the Institute for Research in Social Science and Director of the Louis Harris Data Center*
A.B., 1943 (North Texas State); M.A., 1948 (Louisiana State); M.A., 1949, Ph.D., 1952 (Princeton)

JAMES WORRELL PRUETT (1961), *Assistant Professor of Music and Music Librarian*
A.B., 1955, M.A., 1957, Ph.D., 1962 (North Carolina)

LILIAN PRUETT (1966), *Visiting Assistant Professor of Music*
A.B., 1952 (Vassar College); M.A., 1957, Ph.D., 1960 (North Carolina)

RAYMOND H. PULLEY (1966), *Assistant Professor of History and Modern Civilization*
B.A., 1961 (Norfolk College of William and Mary); M.A., 1963 (Emory); Ph.D., 1966 (Virginia)

JOHN NICHOLAS PYECHA (1965), *Instructor in Physical Education*
B.S., 1955, M.A., 1957 (Appalachian State Teachers College)

DANA EDWARD ANTHONY QUADE (1962), *Associate Professor of Biostatistics*
B.A., 1955 (U.C.L.A.); Ph.D., 1960 (North Carolina)

LEE THOMAS QUAINTANCE (1966), *Instructor in Public Law and Government*
B.A., 1961 (Claremont Men's College); M.A., 1962 (Chicago); LL.B., 1966 (New York University)

ANNE ELLEN QUEEN (1964), *Chairman of YMCA and YWCA Staff*
A.B., 1945 (Berea College); B.D., 1948 (Divinity School, Yale University)

WALTER WAGNER RABB (1946), *Associate Professor of Physical Education, Head Baseball Coach, and Assistant Director of Athletics*
B.S., 1937 (North Carolina State); A.M. in Educ., 1941 (North Carolina)

LAWRENCE RABINOWITZ (1963), *Assistant Professor of Physiology*
A.B., 1956, Ph.D., 1961 (California)

CHARLES EDWARD RACKLEY (1966), *Assistant Professor of Medicine*
M.D., 1958 (Duke)

WILLIAM BRADLEY RADCLIFFE (1966), *Assistant Professor of Radiology*
B.A., 1954, M.D., 1958 (Yale)

ALBERT ERNEST RADFORD (1946), *Professor of Botany*
B.S., 1939 (Furman); Ph.D., 1948 (North Carolina)

PAUL CLYDE RAGLAND (1962), *Assistant Professor of Geology*
B.S., 1958 (Texas Technological College); M.A., 1961, Ph.D., 1962 (Rice)

IRENE SMART RAINS (1944), *Lecturer in Dramatic Art and Costume Director of The Carolina Playmakers*

GEORGE S. RAMSEUR (1966), *Visiting Associate Professor of Botany*
A.B., 1948 (Elon College); M.Ed., 1954, Ph.D., 1959 (North Carolina)

MARY WALKER RANDOLPH (1956), *Professor of Nursing*
Dip. in Nursing, 1924 (Los Angeles County General Hospital); R.N.; B.S.N.Ed., 1932 (Virginia); M.A., 1940 (Columbia)

[127]ROBERT LAWRENCE RANDS (1963), *Associate Professor of Anthropology and Assistant Director of the Research Laboratories of Anthropology*
A.B., 1949 (New Mexico); M.A., 1949 (California, Los Angeles); Ph.D., 1952 (Columbia)

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124. Resigned June 30, 1965.
125. Resigned May 30, 1966.
126. Absent on leave, 1966-1967.
127. Resigned August 31, 1966.

RICHARD BEVERLY RANEY (1944), *Professor of Surgery (Orthopedics)*
A.B., 1926 (North Carolina); M.D., 1930 (Harvard)

K. V. RANGANATHAN (1966), *Visiting Associate Professor of Public Health Education*
M.B. B.S., 1951, B.S.Sc., 1957 (Madras); M.P.H., 1962 (California)

DANIEL RANGEL-GUERRERO (1966), *Instructor in Spanish*
B.A., 1962 (Stanford); M.A., 1964 (Oregon)

JULIUS ROWAN RAPER III (1966), *Assistant Professor of English*
B.A., 1960 (North Carolina); M.A., 1962 (Duke); Ph.D., 1966 (Northwestern)

AMMON RAPOPORT (1965), *Research Assistant Professor of Psychology*
B.A., 1961 (Hebrew, Israel); M.A., 1963, Ph.D., 1965 (North Carolina)

EDWIN ALBERT RASBERRY, JR. (1954), *Clinical Professor of Medicine*
B.S., 1937 (North Carolina); M.D., 1941 (Pennsylvania)

SAMUEL FITSIMONS RAVENEL (1954), *Clinical Professor of Pediatrics*
A.B., 1918 (North Carolina); M.D., 1923 (Johns Hopkins)

FORREST GODFREY READ (1965), *Associate Professor of English*
B.S.M.E., 1948 (Princeton); M.A., 1951 (Buffalo); Ph.D., 1961 (Cornell)

KENNETH JOSEPH RECKFORD (1960), *Associate Professor of Classics*
A.B., 1954 (Harvard College); Ph.D., 1957 (Harvard)

MARK LAFAYETTE REED (1963), *Associate Professor of English*
B.A., 1957 (Yale); M.A., 1958, Ph.D., 1962 (Harvard)

[128]DANIEL ROSS REEDY (1962), *Assistant Professor of Spanish*
B.S., 1957 (Eastern Illinois); M.A., 1959, Ph.D., 1962 (Illinois)

LLOYD WESLEY REGIER (1963), *Associate Professor of Environmental Chemistry in the Department of Environmental Sciences and Engineering*
B.S., 1950 (California, Berkeley); Ph.D., 1961 (California, Davis)

JESSIE REHDER (1947), *Associate Professor of English*
A.B., 1929 (Randolph-Macon); M.A., 1931 (Columbia)

ROBERT RICHARD REHDER (1966), *Associate Professor of Business Administration*
A.B., 1952 (DePauw); M.B.A., 1958 (Indiana); Ph.D., 1961 (Stanford)

DONALD BAUMANN REIBEL (1965), *Clinical Instructor in Surgery*
B.A., 1950, M.D., 1957 (Indiana)

HERBERT WILLIAM REICHERT (1947), *Professor of German*
B.A., 1938, M.A., 1940 (Columbia); Ph.D., 1942 (Illinois)

FRED WILLIAM REID, JR. (1966), *Assistant Professor of Hospital Administration*
B.A., 1955 (Richmond); B.D., 1959 (Southeastern Baptist Theological Seminary); M.Th., 1961 (Duke)

CLIFFORD B. REIFLER (1963), *Instructor in Psychiatry*
A.B., 1951 (Chicago); B.S., 1953 (Northwestern); M.D., 1957 (Yale)

CHARLES NORWOOD REILLEY (1952), *Kenan Professor of Chemistry (1963)*
B.S. in Chem., 1947 (North Carolina); Ph.D., 1952 (Princeton)

DAVID H. REILLY (1966), *Assistant Professor of Education*
B.A., 1959 (Vermont); Ed.M., 1962, Ed.D., 1965 (Rutgers)

[129]EDWARD FRANKLIN RENSHAW (1962), *Associate Professor of Economics and Finance*
B.S., 1954 (Washington State College); M.S., 1955, Ph.D., 1958 (Chicago)

ISAAC NEWTON REYNOLDS (1951), *Professor of Accounting*
B.S., 1948 (East Carolina College); S.M., 1951, Ph.D., 1957 (North Carolina)

TOM REZZUTO, JR. (1956), *Assistant Professor of Dramatic Art and Technical Director of The Carolina Playmakers*
A.B., 1952, M.A., 1954 (North Carolina)

HARRIET LANGE RHEINGOLD (1963), *Research Professor of Psychology*
A.B., 1928 (Cornell); M.A., 1930 (Columbia); Ph.D., 1955 (Chicago)

CECIL DAVID RHODES, JR. (1964), *Clinical Instructor in Medicine*
B.S., 1952 (Davidson); M.D., 1956 (Bowman Gray)

JOHN SLOAN RHODES (1963), *Clinical Assistant Professor of Surgery*
A.B., 1925 (North Carolina); M.D., 1929 (Harvard)

DWIGHT CARROLL RHYNE (1951), *Instructor in Political Science in Extension Teaching, Associate Director of the Extension Division, Director of the Evening College, and Head of the Bureau of Class Instruction*
A.B., 1949, A.M., 1950 (North Carolina)

OSCAR KNEFLER RICE (1936), *Kenan Professor of Chemistry (1959)*
B.S., 1924, Ph.D., 1926 (California)

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128. Absent on leave, fall semester, 1966-1967.
129. Resigned August 31, 1966.

REED PORTER RICE (1961), *Assistant Professor of Radiology*
B.A., 1955 (DePauw); M.D., 1955 (Indiana); M.S., 1961 (Minnesota)

RICHARD EDGEWORTH RICHARDSON (1952), *Professor of Oral Diagnosis and Treatment Planning*
D.D.S., 1937 (Maryland)

WILLIAM PERRY RICHARDSON (1936), *Professor of Preventive Medicine and Assistant Dean of the School of Medicine for Continuation Education*
A.B., 1926 (Wake Forest); M.D., 1928 (Medical College of Virginia); M.P.H., 1933 (Johns Hopkins)

JOSEPH IVERSON RIDDLE (1962), *Clinical Instructor in Psychiatry*
B.S., 1953, M.D., 1956 (North Carolina)

LINDA S. RIDGWAY (1966), *Research Associate in Biostatistics*
B.A., 1961 (Western Michigan); M.P.H., 1966 (North Carolina)

REUBEN DENNIS RIEKE (1966), *Assistant Professor in Chemistry*
B. of Chem., 1961 (Minnesota); Ph.D., 1965 (Wisconsin)

MARY VIRGINIA RIGSBEE (1964), *Instructor in Clinical Social Work, Section of Allied Educational Programs*
A.B., 1948 (Woman's College, North Carolina); M.S.W., 1956 (Tulane)

LYMAN ALONZO RIPPERTON (1958), *Associate Professor of Air Hygiene in the Department of Environmental Sciences and Engineering*
B.A., 1942, B.S., 1946, Ph.D., 1954 (Texas)

[130]GINO LORENZO RIZZO (1963), *Professor of Italian*
Maturita classica, 1940 (Liceo "Marco Polo"); Laurea in Lettere, 1945 (University of Padua, Italy); Corso di perfezionamento, 1948 ("Ca' Foscari" University, Venice Italy); Abilitazione, 1949 (Ministry of Education, Rome, Italy)

HAROLD ROSS ROBERTS (1961), *Associate Professor of Pathology and Assistant Professor of Medicine*
B.S., 1952, M.D., 1955 (North Carolina)

GORDON ROBERTSON, JR. (1966), *Instructor in History and Modern Civilization*
B.A., 1959 (Louisiana Polytechnic Institute); M.A., 1962 (North Carolina)

WILLIAM ADLAI ROBIE (1965), *Clinical Assistant Professor of Pediatrics*
M.D., 1942, F.A.A.P., 1960 (George Washington)

HALBERT BENEFIEL ROBINSON (1959), *Professor of Psychology, Clinical Professor of Psychology in the Department of Psychiatry and Research Associate in the Institute for Research in Social Science*
A.B., 1951, M.A., 1953, Ph.D., 1957 (Stanford)

NANCY MAYER ROBINSON (1966), *Lecturer in Education*
A.B., 1951, M.A., 1953, Ph.D., 1958 (Stanford)

RICHARD HILL ROBINSON, JR. (1966), *Visiting Lecturer in Law*
A.B., 1960 (North Carolina); LL.B., 1963 (New York University)

ROSLYN Q. ROBINSON (1962), *Adjunct Associate Professor of Parasitology (Field)*
B.S., 1950 (New Hampshire); M.S., 1952, Ph.D., 1954 (Maryland)

CHARLES BASKERVILL ROBSON (1925), *Kenan Professor of Political Science (1961)*
A.B., 1919 (Davidson); A.M., 1924 (Princeton); Ph.D., 1930 (North Carolina)

NATHANIEL FULFORD RODMAN, JR. (1958), *Associate Professor of Pathology*
A.B., 1947 (Princeton); M.D., 1951 (Pennsylvania)

ARTHUR M. ROGERS (1965), *Clinical Assistant Professor of Medicine*
M.D., 1937 (Cornell)

ELLIS LAWRENCE ROLETT (1963), *Assistant Professor of Medicine*
B.S., 1952 (Yale); M.D., 1955 (Harvard)

HAL JUDD ROLLINS, JR. (1966), *Clinical Instructor in Surgery (Ophthalmology)*
B.S., 1957, M.D., 1958 (Duke)

MICHAEL Z. RONMAN (1936), *Assistant Professor of Physical Education*
B.S., 1935, Ed.M., 1938 (Pennsylvania State)

FRED WILBURN ROPER (1966), *Visiting Lecturer in Library Science*
A.B., 1960, M.S. in L.S., 1962 (North Carolina)

[131]WARREN RICHARD ROPER (1963), *Research Associate in Chemistry*
B.Sc., 1960, M.Sc., 1961 (University of New Zealand); Ph.D., 1963 (University of Canterbury)

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130. Resigned September 1, 1966.
131. Resigned January 31, 1966.

FRANZ WESTON ROSA (1966), *Adjunct Professor of Maternal and Child Health*
B.S., 1944 (North Carolina); M.D., 1948 (Harvard); M.P.H., 1958 (California)

IRA WOODALL ROSE, JR. (1959), *Clinical Instructor in Surgery*
B.S., 1941 (Davidson); M.D., 1943 (Washington)

RAY FRANK ROSENBERG (1966), *Assistant Professor of Philosophy*
B.A., 1963 (Reed); M.A., 1964, Ph.D., 1966 (Pittsburgh)

ROBERT ALEXANDER ROSS (1934), *Professor of Obstetrics and Gynecology*
S.B., 1920 (North Carolina); M.D., 1922 (Pennsylvania)

NEILL ALBERT ROSSER (1959), *Associate Professor of Education*
A.B., 1939 (Maryville College); Ed.M., 1947 (Harvard); Ed.D., 1952 (Denver)

CHARLINE THACKSTON ROTHA (1966), *Lecturer in Physical Therapy*
B.S., 1943 (University of North Carolina at Greensboro); M.A., 1952 (North Carolina); Cert. in P.T., 1962 (Duke)

LAWRENCE G. ROWAN (1964), *Research Associate and Instructor in Physics*
B.S., 1958, Ph.D., 1963 (California, Berkeley)

CHAUNCEY LAKE ROYSTER (1952), *Clinical Professor of Medicine*
A.B., 1931 (North Carolina); M.D., 1935 (Cornell)

[132]JOAN RUBIN (1965), *Assistant Professor of Anthropology*
B.A., 1954, M.A., 1956 (Michigan); Ph.D., 1963 (Yale)

MAURICE HARVEY RUBIN (1955), *Clinical Assistant Professor of Surgery (Ophthalmology)*
M.D., 1948 (Long Island College of Medicine)

EDNA CRANDALL RUNDGREN (1966), *Assistant Professor of Nursing*
B.S.P.H.N., 1960, R.N.; M.S.P.H.N., 1962 (North Carolina)

ROBERT ARTHUR RUPEN (1958), *Professor of Political Science and Research Professor in the Institute for Research in Social Science*
A.B., 1948 (Williams); M.A., 1949 (Fletcher School of Law and Diplomacy); Ph.D., 1954 (Washington)

CHARLES PHILLIPS RUSSELL (1931), *Professor of Journalism, Emeritus (1956)*
A.B., 1904 (North Carolina)

HARRY KITSUN RUSSELL (1929), *Professor of English*
A.B., 1923 (Davidson); A.M., 1928, Ph.D., 1931 (North Carolina)

RICHARD DILWORTH RUST (1966), *Assistant Professor of English*
B.S., 1961 (Brigham Young); M.S., 1962, Ph.D., 1966 (Wisconsin)

FRANK WINKLER RYAN, JR. (1957), *Associate Professor of History and Modern Civilization*
B.S., 1940 (College of Charleston); M.A., 1947, Ph.D., 1956 (North Carolina)

WILL CARSON RYAN (1940), *Kenan Professor of Education (1940), Emeritus (1956)*
A.B., 1907 (Harvard); Ph.D., Ed.D., 1918, LL.D. (George Washington)

ALTON GUY SADLER (1966), *Professor of Preventive Dentistry and Dental Science*
B.A., 1930 (Duke); M.S., 1937 (North Carolina)

ROBERT HENRY SAGER (1954), *Associate Professor of Periodontology and Oral Pathology*
D.D.S., 1949 (Northwestern); Ph.D., 1961 (Chicago)

JOSEPH ST. JEAN, JR. (1957), *Professor of Geology*
B.S., 1949 (College of Puget Sound); M.A., 1953, Ph.D., 1956 (Indiana)

JOHN LASSITER SANDERS (1956), *Professor of Public Law and Government*
A.B., 1950, J.D., 1954 (North Carolina)

[133]RICHARD MILLER SANDERS (1965), *Instructor of Psychology*
A.B., 1959 (Dartmouth); M.A., 1960 (Hollins)

OSCAR LEMAY SAPP III (1960), *Associate Professor of Medicine*
M.D., 1947 (Bowman Gray)

BETTY J. SANDERS (1967), *Assistant Professor, Division of Physical Therapy*
B.A., 1949 (Oklahoma College for Women); M.A., 1956 (Stanford University)

WILEY BRITTON SANDERS (1923), *Professor of Sociology, Emeritus (1963)*
A.B., 1919, A.M., 1920 (Emory); A.M., 1921 (North Carolina); Ph.D., 1929 (Chicago)

JACK M. SASSON (1966), *Assistant Professor of Religion*
A.B., 1962 (Brooklyn College); M.A., 1963, Ph.D., 1966 (Brandeis University)

JAMES H. SCATLIFF (1966), *Professor of Radiology*
B.S., 1949, M.D., 1952 (Northwestern)

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132. Resigned August 31, 1966.
133. Resigned May 31, 1966.

HERMAN MAX SCHIEBEL (1942), *Clinical Assistant Professor of Surgery*
A.B., 1929, M.D., 1933 (Johns Hopkins)

JAN PHILIP SCHINHAN (1935), *Professor of Music, Emeritus (1958)*
A.B., 1931, M.A., 1933 (California); Ph.D., 1937 (Vienna)

GUY WALTER SCHLASEMAN (1962), *Clinical Assistant Professor of Radiology*
M.D., 1946 (Duke)

[134]GEORGE SCHLESINGER (1967), *Professor of Philosophy*
B.Sc., 1955 (London); Ph.D., 1959 (Melbourne)

[135]KURT SCHLESINGER (1964), *Assistant Professor of Psychology and Clinical Assistant Professor of Psychology in the Department of Psychiatry, School of Medicine*
B.A., 1958 (City College of San Francisco); M.A., 1959 (San Francisco State College); Ph.D., 1963 (California, Berkeley)

NORBERT JOSEPH SCHNEIDER (1965), *Instructor in Operative Dentistry and Endodontics*
A.B., 1961 (Guilford); D.D.S., 1965 (North Carolina)

PETER WOLFGANG SCHNEIDER (1965), *Instructor in Chemistry*
Ph.D., 1964 (Basel)

WILLIAM GENE SCHNEIDER (1959), *Associate Professor of Orthodontics*
D.D.S., 1954 (Iowa); M.Sc.O., 1959 (North Carolina)

BARBARA BRANDON SCHNORRENBERG (1962), *Lecturer in History*
B.A., 1951 (Wellesley College); M.A., 1953 (North Carolina); Ph.D., 1958 (Duke)

JOHN MARTIN SCHNORRENBERG (1959), *Associate Professor of Art History*
A.B., 1952, M.A., 1953 (North Carolina); M.F.A., 1957, Ph.D., 1964 (Princeton)

MARK ALAN SCHOENBERG (1966), *Lecturer in Dramatic Art*
B.F.A., 1957 (Carnegie Institute of Technology); M.F.A., 1966 (Tulane)

DOUGLAS WILLIAM SCHOENINGER (1965), *Assistant Professor of Psychology and Clinical Assistant Professor of Psychology in Psychiatry*
B.A., 1961 (DePauw); M.S., 1963, Ph.D., 1965 (Wisconsin)

ERIC SCHOPLER (1964), *Assistant Professor of Psychology in the Department of Psychiatry*
A.B., 1949, M.A., 1955, Ph.D., 1964 (Chicago)

[136]JOHN SCHOPLER (1957), *Associate Professor of Psychology*
B.A., 1952 (Rochester); M.A., 1953 (New Mexico); Ph.D., 1958 (Colorado)

PETER EDWARD SCHRAG (1966), *Clinical Instructor in Medicine*
A.B., 1959, M.D. (Harvard)

[136a]DIEDRICH SCHROFER (1966), *Assistant Professor of Physics*
B.S., 1960, Ph.D., 1965 (Ohio State)

JOSEPH H. SCHUBERT (1964), *Adjunct Associate Professor of Parasitology (Field)*
B.S., 1932, M.S., 1934, Ph.D., 1937 (Cornell)

EVERETT HOYLE SCHULTZ, JR. (1961), *Associate Professor of Radiology*
M.D., 1952 (Bowman Gray)

NATHAN SCHUPPER (1965), *Clinical Assistant Professor of Prosthodontics*
B.S., 1932, D.D.S., 1932 (Pittsburgh)

JOHN HARRIS SCHWAB (1953), *Associate Professor of Bacteriology*
B.A., 1949, M.S., 1950, Ph.D., 1953 (Minnesota)

RUTH ANNE GRAVES SCHWAB (1962), *Instructor in Nursing*
B.S., 1951 (Minnesota); R.N.; M.S.N., 1960 (North Carolina)

JOEL JOSEPH SCHWARTZ (1965), *Assistant Professor of Political Science*
A.B., 1960 (Harvard); M.A., 1963, Ph.D., 1965 (Indiana)

KESSEL SCHWARTZ (1966), *Visiting Professor of Spanish*
B.A., 1940, M.A., 1941 (Missouri); Ph.D., 1953 (Columbia)

JOHN HENRY SCHWARZ, JR. (1966), *Instructor in English*
B.S., 1958 (Holy Cross); M.A., 1962 (Wyoming)

GUSTAV THEODOR SCHWENNING (1926), *Professor of Business Administration, Emeritus (1961)*
B.H., 1920 (Springfield); M.A., 1921, Ph.D., 1925 (Clark)

FRANK J. SCHWENTKER (1954), *Julian Price Lecturer in Life Insurance (1953)*
A.B., 1928 (Harvard); C.L.U., 1938 (American College of Life Underwriters); C.P.C.U. 1956 (American Institute of Property and Liability Underwriters)

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134. Effective, spring semester, 1967
135. Resigned June 30, 1966.
136. Absent on leave, 1966-1967.
136a. Effective February 1, 1967.

EBECCA BALLENTINE SCOGGIN (1965), *Librarian*
A.B., 1948 (Meredith)

NDREW MACKAY SCOTT (1958), *Professor of Political Science*
B.A., 1946 (Dartmouth); M.A., M.P.A., 1949, Ph.D., 1950 (Harvard)

NNE VELLNA SCOTT (1954), *Clinical Professor of Pediatrics, Emeritus (1965)*
B.S., 1914 (Woman's College, North Carolina); M.D., 1918 (Woman's Medical College of Pennsylvania)

GORDON FRASER SCOTT (1965), *Instructor in Hospital Administration*
A.B., 1958 (Brown); M.B.A., 1960 (Columbia)

HN WINFIELD SCOTT, JR. (1962), *Professor of Law*
B.S., 1943 (Auburn); LL.B., 1947, LL.M., 1951 (Harvard)

OBERT NEILL SCOTT (1957), *Associate Professor of Education*
B.S., 1948 (Western Carolina College); M.A., 1950 (Peabody); Ed.D., 1956 (Tennessee)

HOMAS RUFUS SCOTT (1962), *Assistant Professor of Medicine*
B.S., 1954 (Lenoir Rhyne); M.D., 1958 (Bowman Gray)

OSS E. SCROGGS, JR. (1949), *Assistant Professor of Radio, Television, and Motion Pictures and Associate Director of the Communication Center*
B.S., 1942 (North Carolina)

HEODORE DENNIS SCURLETIS (1962), *Clinical Assistant Professor of Pediatrics*
B.S., 1947, M.D., 1951 (Pennsylvania)

UART WILSON SECHRIEST (1946), *Associate Professor of Journalism*
A.B., 1935 (North Carolina)

LLY YEATES SEDELOW (1966), *Associate Professor of English and Information Science*
B.A., 1953 (Iowa); M.A., 1956 (Mount Holyoke); Ph.D., 1960 (Bryn Mawr)

ALTER A. SEDELOW, JR. (1966), *Associate Professor of Sociology and Information Science*
B.A., 1947 (Amherst); M.A., 1951, Ph.D., 1957 (Harvard)

ENYON BERTEL SEGNER III (1965), *Lecturer in the School of Education and Community College Field Consultant in the Extension Division*
B.S., 1957, M.S., 1959 (Florida State); Ed.D., 1966 (North Carolina)

ARION SEILER (1960), *Research Associate in Botany*
A.B., 1937 (Illinois)

ED THEODOR SEMENIUK (1947), *Professor of Medicinal Chemistry and Lecturer in Chemistry*
B.Sc., 1939 (Alberta); Ph.D., 1947 (Purdue)

HN ERWIN SEMONCHE (1961), *Assistant Professor of History and Modern Civilization*
A.B., 1954 (Brown); M.A., 1955, Ph.D., 1962 (Northwestern)

ANAB KUMAR SEN (1965), *Visiting Associate Professor of Biostatistics*
B.Sc., 1955, M.Sc., 1957, Ph.D., 1962 (Calcutta)

OBERT JOSEPH SENIOR (1959), *Clinical Assistant Professor of Pediatrics*
B.S., 1949 (Franklin and Marshall College); M.D., 1955 (Jefferson Medical College)

ILLIAM JEFFRESS SENTER (1952), *Clinical Assistant Professor of Medicine*
B.S., 1938 (Wake Forest); M.D., 1942 (Maryland)

HN TURNER SESSIONS, JR. (1952), *Professor of Medicine*
B.S., 1943, M.D., 1945 (Emory)

[138]HANSON DOUGLAS SESSOMS (1954), *Associate Professor of Recreation Administration and Director OEO Multipurpose Training Center*
A.B., 1953 (North Carolina); M.S., 1954 (Illinois); Ph.D., 1959 (New York University)

OBERT JACK SHANKLE (1951), *Professor of Operative Dentistry and Endodontics*
D.D.S., 1948 (Emory)

AVID GORDON SHARP (1957), *Professor of Biophysics*
B.S., 1932 (Rutgers); M.A., 1937, Ph.D., 1939 (Duke)

AWRENCE ALBRIGHT SHARPE (1953), *Associate Professor of Spanish and Portuguese*
A.B., 1940, Ph.D., 1956 (North Carolina)

OBERT BOIES SHARPE (1931), *Professor of English, Emeritus (1965)*
A.B., 1918 (Wesleyan); M.A., 1923 (Wisconsin); Ph.D., 1928 (Yale)

ARTHA KORNEGAY SHARPLESS (1966), *Clinical Instrucior in Pediatrics*
A.B., 1955 (Duke); M.D., 1959 (North Carolina)

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137. Resigned April 30, 1966.
138. Absent on leave, September 1966 through August 1967.

E. A. SHARPLESS (1966), *Visiting Lecturer in Pathology*
B.S., 1952 (Rutgers); M.D., 1961 (North Carolina)

DONALD LEWIS SHAW (1966), *Assistant Professor of Journalism*
A.A., 1957 (Mars Hill); A.B., 1959, M.A., 1960 (North Carolina); Ph.D., 1966 (Wisconsin)

FRANK S. SHAW (1965), *Clinical Instructor in Pediatrics*
B.S., 1955 (Davidson); M.D., 1959 (Pennsylvania)

WILLIAM WINSLOW SHEA (1964), *Assistant Professor of Philosophy*
B.A., 1954, Ph.D., 1962 (Yale)

CHARLES ISAAC SHEAFFER (1961), *Clinical Assistant Professor of Pediatrics*
B.S., 1950 (Butler); M.A., 1954, M.D., 1958 (Virginia)

PAUL EDMONDSON SHEARIN (1936), *Professor of Physics*
A.B. in Educ., 1929, A.M., 1930 (North Carolina); Ph.D., 1934 (Ohio State)

GLEN W. SHELLHAAS (1966), *Visiting Professor of Law*
A.B., 1941, J.D., 1943 (Ohio State)

CHARLES C. SHEPARD (1963), *Adjunct Associate Professor of Parasitology (Field)*
B.S., 1936 (Stanford); M.S., 1938, M.B., 1940, M.D., 1941 (Northwestern)

FREDERICK CARLYLE SHEPARD (1945), *General College Adviser*
A.B., 1921, A.M., 1926, Ph.D., 1938 (North Carolina)

GEORGE EDWARD SHEPARD (1929), *Professor of Physical Education and Associate Dean in the General College*
S.B., 1929 (North Carolina); M.A., 1940, Ed.D., 1948 (Columbia)

WILLIAM ROBERT SHERRARD (1965), *Assistant Professor of Industrial Management and Adviser in the General College*
B.B.A., 1957, M.B.A., 1958, Ph.D., 1965 (Washington)

JOHN FRANKLIN SHERRILL, JR. (1962), *Clinical Associate Professor of Radiology*
B.S., 1945 (Wake Forest); M.D., 1946 (Bowman Gray)

JABBAR KHAN SHERWANI (1962), *Associate Professor of Hydrology and Water Resources in the Department of Environmental Sciences and Engineering*
B.S., 1942 (Islamia College, Panjab); B.S., C.E., 1945 (Panjab University); M.C.E., 1947 (Polytechnic Institute of Brooklyn); Ph.D., 1951 (Utah); M.P.A., 1958 (Harvard)

MORRIS A. SHIFFMAN (1964), *Associate Professor of Environmental Sanitation*
D.V.M., 1944 (Middlesex University); M.P.H., 1945 (Michigan); Docteur-Veterinaire, 1949 (National Veterinary College, Alfort, France); M.G.A., 1957 (Pennsylvania)

[139]HUGH M. SHINGLETON (1964), *Assistant Professor of Obstetrics and Gynecology*
A.B., 1954, M.D., 1957 (Duke)

[140]TOMOTAKA SHINODA (1965), *Research Associate in Biochemistry*
B.Sci., 1960, M.Sci., 1962 (Tokyo Metropolitan University)

[140a]HUDSON WILSON SHOULARS, JR. (1962), *Assistant Professor of Periodontology and Oral Pathology*
B.A., 1956, D.D.S., 1960 (North Carolina)

EARL SIEGEL (1964), *Associate Professor of Maternal and Child Health, School of Public Health, and Clinical Assistant Professor of Pediatrics, School of Medicine*
B.S., 1944 (Pittsburgh); M.D., 1948 (New York Medical College); M.P.H., 1961 (California)

[141]WALTER ALLEN SIKES (1954), *Clinical Associate Professor of Psychiatry*
B.S., 1945 (Georgia); M.D., 1946 (Medical College of Georgia)

MARVIN SILVER (1959), *Visiting Associate Professor of Physics*
B.E.E., 1945 (Rensselaer Polytechnic Institute); M.S., 1951, Ph.D., 1959 (New York University)

JOHN LEWIS SIMMONS (1957), *Associate Professor of Surgery*
M.D., 1951 (Washington)

RICHARD LEE SIMPSON (1958), *Professor of Sociology and Acting Director of the Institute for Research in Social Science*
A.B., 1950 (North Carolina); M.A., 1952 (Cornell); Ph.D., 1956 (North Carolina)

LOUIS GORDON SINCLAIR (1961), *Clinical Assistant Professor of Surgery*
B.A., 1929, B.S., 1931 (Wake Forest); M.D., 1933 (Pennsylvania)

WILLIAM VANCE SINGLETARY (1965), *Clinical Instructor in Medicine*
A.B., 1940 (North Carolina); M.D., 1943 (Duke)

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139. Absent on leave, July 1, 1966 through July 1, 1967.
140. Resigned September 21, 1966.
140a. Resigned June 30, 1966.
141. Resigned June 30, 1966.

MARY CLYDE SINGLETON (1961), *Assistant Professor of Physical Therapy and Anatomy*
B.S., 1932 (Woman's College, North Carolina); M.A., 1960, Ph.D., 1964 (Duke)

JOSEPH CARLYLE SITTERSON (1933), *Kenan Professor of History (1961) and Chancellor of The University of North Carolina at Chapel Hill*
A.B., 1931, A.M., 1932, Ph.D., 1937 (North Carolina)

DONALD EDMUND SKAKLE, SR. (1958), *Assistant Professor of Physical Education and Head Tennis Coach*
A.B., 1950, M.Ed., 1960 (North Carolina)

WILLIAM G. SLATTERY (1957), *Lecturer in Distributive Education*
B.S., 1932 (State Teachers College, Clarion, Pa.); M.S., 1951 (Woman's College, North Carolina)

LAWRENCE MYER SLIFKIN (1955), *Professor of Physics*
A.B., 1947 (New York University); M.A., 1949, Ph.D., 1950 (Princeton)

JOSEPH CURTIS SLOANE (1959), *Alumni Distinguished Professor of Art (1963) and Director of the Ackland Memorial Art Center*
B.A., 1931, M.F.A., 1934, Ph.D., 1949 (Princeton)

CARL ANDERSON SLOCUM (1933), *Professor of Music*
B. Mus., 1931, M.M., 1936 (Michigan); Mus.D., 1960 (Albion)

CECIL SLOME (1962), *Associate Professor of Epidemiology*
M.B.Ch.B., 1944 (Capetown, South Africa); D.P.H., 1954 (University of London)

TROY BUNYON SLUDER, JR. (1955), *Associate Professor of Operative Dentistry and Endodontics*
D.D.S., 1955 (North Carolina); M.S., 1961 (Michigan)

LUZELA CAMOLENE SMART (1959), *Associate Professor of Clinical Social Work, Section of Allied Educational Programs and Associate Professor of Preventive Medicine*
A.B., 1930 (Meredith); M.S., 1950 (New York School of Social Work, Columbia University)

PAVEL SMEJTEK (1966), *Research Associate in Physics*
B.S., 1961 (Polytechnic Institute, Leningrad); Ph.D., 1965 (Institute of Macrolecular Chemistry, Czechoslovakia)

GARY RAY SMILEY (1965), *Assistant Professor of Orthodontics*
B.S., 1958, D.D.S., 1961, M.Sc.O., 1965 (North Carolina)

ALTON LACY SMITH (1960), *Clinical Instructor in Periodontology and Oral Pathology*
B.A., 1943 (North Carolina); D.D.S., 1949 (Emory)

DEAN EDWARDS SMITH (1958), *Head Basketball Coach*
B.S., 1953 (Kansas)

HARRY SMITH, JR. (1966), *Professor of Biostatistics*
B.A., 1943, M.S., 1948 (Delaware); Ph.D., 1954 (North Carolina State)

HARVEY L. SMITH (1952), *Professor of Sociology in the Department of Sociology, Clinical Professor of Sociology in the Department of Psychiatry, Director of the Social Research Section of the Division of Health Affairs, and Director of the Center for Community Research and Services*
B.A., 1941, M.A., 1947, Ph.D., 1949 (Chicago)

IVOR SEAGER SMITH (1966), *Assistant Professor of Surgery*
MRCS., 1958 (R.C.S., London); LRCP., 1958 (R.C.P., England); M.B., B.Ch., 1960, M.A., 1961 (Cambridge, England)

RICHARD GREY SMITH (1965), *Assistant Professor of Geography*
B.S., 1953 (Alaska); M.S., 1962, Ph.D., 1965 (Wisconsin)

RICHARD MULDROW SMITH (1964), *Assistant Professor of Law*
LL.B., 1963 (Arkansas)

ROBERT LAWRENCE SMITH (1965), *Research Associate in Chemistry*
B.S., 1961 (North Carolina); M.S., 1963, Ph.D., 1965 (Maine)

SIDNEY RUFUS SMITH, JR. (1962-1965; 1966), *Assistant Professor of German*
A.B., 1953 (Duke); Ph.D., 1965 (North Carolina)

VONNIE BRYAN SMITH (1966), *Assistant Professor of Orthodontics*
D.D.S., 1958, M.Sc.O., 1962 (North Carolina)

WALTER LAWS SMITH (1954), *Professor of Statistics*
B.A., 1947, M.A., 1951, Ph.D., 1953 (Cambridge)

WILLIAM ALLEN SMITH, JR. (1965), *Instructor in Hospital Administration*
B.A., 1954 (Virginia Military Institute); M.H.A., 1959 (Medical College of Virginia)

WILLIAM WALKER SMITH (1965), *Assistant Professor of Mathematics*
B.S., 1961 (Southeastern Oklahoma); M.S., 1963, Ph.D., 1965 (Louisiana State)

RICHARD ANDREW SMYTH (1961), *Associate Professor of Philosophy*
B.A., 1955 (Yale); M.A., 1959, Ph.D., 1961 (Indiana)

MARY ROSE SNYDER (1963), *Instructor in Nursing*
Dip. in Nursing, 1933 (Lenox Hill Hospital, New York City); R.N.; B.S.N., 1952 (Queens College, Charlotte); M.P.H., 1960 (North Carolina)

CLARENCE LEE SOCKWELL (1952), *Associate Professor of Operative Dentistry*
D.D.S., 1952 (Emory)

[142]JAMES EARL SOMERS (1957), *Clinical Associate Professor of Psychiatry*
A.B., 1949 (North Carolina); M.D., 1953 (Duke)

ROY ELMER SOMMERFELD (1956), *Professor of Education*
B.S., 1937 (Western Michigan); M.A., 1947, Ph.D., 1952 (Michigan)

JOHN MITCHELL SORROW, JR. (1954), *Associate Professor of Medicine and Assistant Dean of the School of Medicine*
B.S., 1943 (North Carolina); M.D., 1946 (Pennsylvania)

GERALD ALLEN SOUTHERLAND (1964), *Lecturer in Social Work*
B.A., 1959 (Atlantic Christian College); M.S.W., 1961 (North Carolina)

JOHN BRIGHT SOWTER (1955), *Associate Professor of Prosthodontics*
D.D.S., 1952 (Pennsylvania); M.Sc., 1959 (Ohio State)

ROBERT S. SPAIN (1965), *Clinical Assistant Professor of Medicine*
B.S., 1944 (North Carolina); M.D., 1946 (Washington)

ERNEST BURTON SPANGLER, JR. (1962), *Clinical Assistant Professor of Radiology*
B.S., 1948 (Davidson); M.D., 1952 (Pennsylvania)

JACKSON GILLEN SPARKS (1964), *Instructor of French*
A.B., 1953, M.A., 1964 (North Carolina)

NATHANIEL LOUIS SPARROW (1965), *Clinical Instructor in Surgery*
B.S., 1953, M.D., 1957 (North Carolina)

WALTER SMITH SPEARMAN (1935), *Professor of Journalism*
A.B., 1929, A.M., 1937 (North Carolina)

[143]REX WILSON SPEERS (1961), *Associate Professor of Child Psychiatry*
B.S., 1942, M.D., 1944 (Utah)

ROGER F. SPENCER (1963), *Assistant Professor of Psychiatry*
B.S., 1956 (Yale); M.D., 1959 (Harvard)

BERNARD FRANKLIN SPIELVOGEL (1963), *Assistant Professor of Chemistry*
B.S., 1959 (Geneva College); Ph.D., 1963 (Michigan)

PHILIP S. SPIERS (1966), *Research Associate in Epidemiology*
Ph.D., 1966 (Oxford)

PRESCOTT BUSH SPIGNER, JR. (1964), *Clinical Instructor in Surgery*
B.S., 1950 (South Carolina); M.D., 1953 (Medical College of South Carolina)

JOHN KEITH SPITZNAGEL (1957), *Associate Professor of Bacteriology and of Medicine*
B.A., 1943, M.D., 1946 (Columbia)

CORYDON PERRY SPRUILL (1922), *Alumni Distinguished Professor of Economics (1961) and Chairman of the Faculty*
A.B., 1920 (North Carolina); B.Litt., 1922 (Oxford)

WILLIAM HUTCHINSON SPRUNT III (1952), *Clinical Associate Professor of Radiology*
B.S., 1942 (Davidson); M.D., 1945 (Harvard)

RALPH W. STACY (1963), *Professor of Bioengineering and Biomathematics in Surgery*
B.S., 1942 (Miami University); M.S., 1947, Ph.D., 1948 (Ohio State)

LUCIA CIAPPONI STADTER (1964), *Lecturer in Italian*
Laurea in letters, 1959 (Universitá Cattolica del Sacro Cuore, Milan, Italy)

PHILIP AUSTIN STADTER (1962), *Assistant Professor of Classics*
A.B., 1958 (Princeton); A.M., 1959, Ph.D., 1963 (Harvard)

DARREL WAYNE STAFFORD (1965), *Assistant Professor of Zoology*
B.A., 1959 (Southwest Missouri State College); Ph.D., 1964 (Miami)

TALBERT LACY STALLINGS, JR. (1961), *Clinical Instructor in Surgery*
A.B., 1950, M.D., 1954 (Duke)

RIA STAMBAUGH (1961), *Assistant Professor of German*
A.B., 1958 (Piedmont College); Ph.D., 1963 (North Carolina)

[144]CONRAD JAMES STEELE, JR. (1962), *Instructor in Physical Education*
B.S., 1958 (West Chester State Teachers College); M.Ed., 1962 (North Carolina)

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142. Resigned August 31, 1966.
143. Resigned July 31, 1966.
144. Resigned September 1, 1966.

MICHAEL ALLEN STEGMAN (1966), *Assistant Professor of Planning*
B.A., 1962 (Brooklyn College); M.C.P., 1964, Ph.D., 1966 (Pennsylvania)

THOMAS ADOLPH STEIN (1965), *Assistant Professor of Recreation Administration*
B.S., 1948 (Michigan State); M.S., 1959, Ph.D., 1962 (Wisconsin)

ALBERT STEWART, JR. (1957), *Clinical Associate Professor of Medicine*
B.A., 1941 (North Carolina); M.D., 1944 (Washington)

ALEC THOMPSON STEWART (1960), *Professor of Physics*
B.Sc., 1946, M.S., 1949 (Dalhousie); Ph D., 1952 (Cambridge)

GORDON T. STEWART (1964), *Professor of Epidemiology and Pathology*
B.Sc., 1939, M.B., Ch.B., 1942, M.D., 1948 (Glasgow); D.T.M.&H., 1947 (Liverpool); F.C. Path. 1963 (London)

PEARSON HASLAM STEWART (1952), *Lecturer in Planning*
A.B., 1940 (Amherst); M.C.P., 1946 (Massachusetts Institute of Technology)

WILLIAM S. STEWART (1956), *Lecturer in Business Law*
B.S., 1947 (Georgia Institute of Technology); LL.B., 1949 (Harvard)

WILLIAM F. STINESPRING (1966), *Visiting Professor of Classics*
B.A., 1924, M.A., 1929 (Virginia); Ph.D., 1932 (Yale)

ROBERT EDWIN STIPE (1957), *Associate Professor of Public Law and Government*
A.B., 1950, LL.B., 1953 (Duke); M.R.P., 1959 (North Carolina)

LLOYD KENNETH STIRES (1966), *Visiting Lecturer in Psychology*
B.A., 1963 (Drew)

EDWIN MURDOCH STIRLING (1966), *Instructor in English*
B.A., 1962 (University of the South); M.A., 1963 (Northwestern)

ALAN ERNEST STIVEN (1962), *Associate Professor of Zoology*
B.Sc., 1957 (University of New Brunswick); M.A., 1959 (University of British Columbia); Ph.D., 1962 (Cornell)

144aE. BARBARA STOCKING (1963), *Associate Professor of Maternal and Child Health*
Diploma in Nursing, 1937 (Capital City School of Nursing); B.S., 1953 (Wayne State); M.P.H., 1957 (Harvard)

DAVID HOWELL STODDARD (1964), *Visiting Associate Professor of Epidemiology*
B.S., 1941 (Oregon State University); M.D., 1945 (University of Oregon Medical School); Flight Surgeon, 1946 (U.S.A.F. School of Medicine); M.S., 1962 (Cincinnati)

RUTH ELAINE STONE (1963), *Lecturer in Library Science and Librarian, School of Library Science*
A.B., 1932 (Woman's College, North Carolina); M.S.L., 1954 (North Carolina)

STERLING AUBREY STOUDEMIRE (1924), *Professor of Spanish*
A.B., 1923, A.M., 1924, Ph.D., 1930 (North Carolina)

JOSEPH WARD STRALEY (1944), *Professor of Physics*
B.S. in Ed., 1936 (Bowling Green State University); M.Sc., 1937, Ph.D., 1941 (Ohio State)

NICHOLAS EMANUEL STRATAS (1964), *Clinical Assistant Professor of Psychiatry*
B.A., 1953, M.D., 1957 (Toronto)

WILLIAM RINGGOLD STRAUGHN, JR. (1944), *Associate Professor of Bacteriology and Adviser in the General College*
B.S., 1935 (Mansfield State Teachers College); M.S., 1940 (Cornell); Ph.D., 1958 (Pennsylvania)

ALBRECHT BENNO STRAUSS (1960), *Associate Professor of English*
B.A., 1942 (Oberlin); M.A., 1948 (Tulane); Ph.D., 1956 (Harvard)

WILLIAM DOUGLAS STRICKLAND (1956), *Associate Professor of Operative Dentistry and Endodontics*
B.S., 1950 (Wake Forest); D.D.S., 1956 (North Carolina)

CHARLES GILMER STRICKLEN, JR. (1963), *Assistant Professor of History and Modern Civilization*
B.A., 1959 (Wesleyan); M.A., 1962, Ph.D., 1966 (Yale)

FRANK RANSOM STRONG (1965), *Professor of Law*
A.B., 1929, LL.B., 1934 (Yale)

145HANS HERMANN STRUPP (1957), *Professor of Psychology in the Departments of Psychiatry and Psychology*
A.B., 1945, A.M., 1947, Ph.D., 1954 (George Washington)

GARY B. STUCK (1966), *Assistant Professor of Education*
A.B., 1960 (Hanover College); M.S., 1963, Ed.D., 1966 (Indiana)

144a. Resigned September 1, 1966.
145. Resigned June 30, 1966.

[146]OTTO STUHLMAN, JR. (1919), *Professor of Physics, Emeritus (1953)*
B.A., 1907 (Cincinnati); M.A., 1909 (Illinois); Ph.D., 1911 (Princeton)

THOMAS ANTHONY STUMPF (1965), *Assistant Professor of English*
A.B., 1960 (St. Louis); M.A., 1961 (Harvard); Ph.D., 1966 (Harvard)

CLIFFORD MAX STURDEVANT (1950), *Professor of Operative Dentistry*
D.D.S., 1943 (Emory)

ROGER EDWARD STURDEVANT (1950), *Professor of Operative Dentistry, Emeritus (1964)*
D.D.S., 1916 (Nebraska)

W. DANIEL SUDIA (1966), *Adjunct Associate Professor of Parasitology (Field)*
B.S., 1949 (Florida); M.S., 1950, Ph.D., 1958 (Ohio State)

[146a]WILLIAM CASWELL SUGG, JR. (1965), *Instructor in Medicine*
B.S., 1957 (Auburn); M.D., 1961 (Emory)

KENNETH SUGIOKA (1954), *Professor of Surgery (Anesthesiology)*
B.S., 1946 (Denver); M.D., 1949 (Washington University)

CHONGDEE SUKTHOMYA (1967), *Instructor in Radiology*
M.D., 1960 (Siriraj Medical School, Thailand)

GEORGE KENDRICK SUMMER (1957), *Associate Professor of Biochemistry and Clinical Associate Professor of Pediatrics*
B.S., 1944 (North Carolina); M.D., 1951 (Harvard)

ARTHUR SUMMERLIN (1965), *Clinical Instructor in Obstetrics and Gynecology*
B.S., 1945 (North Carolina); M.D., 1948 (Virginia)

[147]NADIPALLI SUNDARACHARI (1964), *Research Associate in Chemistry*
B.Sc., 1955 (Andhra University); M.Sc., 1957, Ph.D., 1962 (Banaras Hindu University)

BENJAMIN FRANKLIN SWALIN (1935), *Professor of Music in Extension and Director, North Carolina Symphony Orchestra*
B.S., 1928, M.A., 1930 (Columbia); Ph.D., 1932 (Vienna); Diplomas, 1926, 1928 (Institute of Musical Art, Juilliard School of Music, New York City); Diplomas, 1932 (Hochschule für Musik, Vienna)

MARGARET CATHERINE SWANTON (1948), *Associate Professor of Pathology*
A.B., 1943 (North Carolina); M.D., 1946 (Johns Hopkins)

LUTHER RAYMOND TAFF (1956), *Associate Professor of Education*
A.B., 1936, M.Ed., 1952, Ph.D., 1954 (North Carolina)

JOSEPH WILLIAM TALAROWSKI (1966), *Instructor in Dramatic Art*
B.A., 1956, M.Ed., 1956 (Delaware); Ph.D., 1966 (Denver)

ERNEST WILLIAM TALBERT (1949), *Alumni Distinguished Professor of English (1963)*
A.B., 1929 (San Jose State College); M.A., 1931, Ph.D., 1936 (Stanford)

LUTHER MARCUS TALBERT (1958), *Associate Professor of Obstetrics and Gynecology*
B.A., 1949 (Emory and Henry); M.D., 1953 (Virginia)

VINCENT TAORMINA (1965), *Assistant Professor of Medicine*
B.S., 1949 (Fordham); M.D., 1959 (Virginia)

VINCENT JOSEPH TARASCIO (1964), *Assistant Professor of Economics*
B.A., 1961 (San Jose State College); Ph.D., 1966 (Rice)

DONALD GENTRY TARBET (1952), *Professor of Education*
B.S., 1938, M.E., 1946, Ed.D., 1952 (Missouri)

JAMES ROYSTER TARRY (1966), *Clinical Instructor in Psychiatry*
B.S., 1946 (Hampden-Sydney College); M.D., 1952 (Medical College of Virginia)

BOBBY GENE TATE (1964), *Research Assistant Professor of Psychology*
B.S., 1954 (Auburn); M.Ed., 1961, Ph.D., 1964 (North Carolina)

DONALD E. TAYLOR (1966), *Lecturer in Education*
B.S., 1960 (Centenary College); M.Ed., 1964 (North Carolina)

DUANE FRANCIS TAYLOR (1963), *Professor of Dental Science*
B.S.E. (Chem. Engr.), 1949, M.S.E. (Met. Engr.), 1950 (Michigan); Ph.D., 1961 (Georgetown)

GEORGE VANDERBECK TAYLOR (1952), *Professor of History*
B.A., 1941 (Rutgers); M.A., 1949, Ph.D., 1950 (Wisconsin)

GWENDOLYN J. TAYLOR (1964), *Instructor in Nursing*
Diploma in Nursing, 1947 (Michigan); R.N.; B.S.N., 1956 (Western Reserve); M.S., 1960 (California)

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146. Died December 8, 1965.
146a. Resigned June 30, 1966.
147. Resigned July 31, 1966.

ISAAC MONTROSE TAYLOR (1952), *Professor of Medicine and Dean of the School of Medicine*
A.B., 1942 (North Carolina); M.D., 1945 (Harvard)

JAMES ALEXANDER TAYLOR (1949), *Clinical Associate Professor of Medicine and University Physician*
A.B., 1939 (North Carolina); M.D., 1943 (Harvard)

JENNINGS BRYAN TAYLOR (1963), *Research Associate in Bacteriology*
A.B., 1921, M.S., 1922 (Kentucky)

NANCY BOYD TAYLOR (1965), *Instructor in Nursing*
B.S.N., 1949 (Medical College of Virginia, Richmond, Virginia); R.N.; M.S.N., 1965 (North Carolina)

[148]RANSOM THEODORE TAYLOR (1956), *Associate Professor of German*
Lic.Oec., 1939 (Handelshochsch., St. Gallen, Switzerland); A.M., 1949 (U.C.L.A.); Ph.D., 1956 (California)

SHAHANE RICHARDSON TAYLOR, JR. (1963), *Clinical Instructor in Surgery*
A.B., 1955, M.D., 1959 (North Carolina)

WILLIAM WEST TAYLOR (1952), *Assistant Professor of Hospital Pharmacy and Chief Pharmacist, North Carolina Memorial Hospital*
S.B., 1947, Ph.D., 1962 (North Carolina)

JUNIUS HEWITT TERRELL (1966), *Associate Professor of Accounting*
B.S., 1952 (Louisiana State); C.P.A., 1957 (State of Texas); M.B.A., 1965, Ph.D., 1966 (Texas)

WILLIAM ADOLPH TERRILL (1951), *Professor of Accounting*
B.B.A., 1938, B.S., 1940 (Cincinnati); M.S., 1949, Ph.D., 1952 (Illinois); C.P.A., 1952 (State of Illinois)

RICHARD BENJAMIN TERRY (1965), *Assistant Professor of Zoology*
B.S., 1961 (Idaho); Ph.D., 1966 (Illinois)

DANIEL ANDREW TEXTORIS (1965), *Assistant Professor of Geology*
B.A., 1958 (Western Reserve); M.S., 1960 (Ohio State); Ph.D., 1963 (Illinois)

JAMES D. THAYER (1964), *Adjunct Associate Professor of Parasitology (Field)*
B.S., 1929, M.S., 1931, Ph.D., 1936 (Washington)

JOHN WALTER THIBAUT (1953), *Alumni Distinguished Professor of Psychology (1962), and Research Professor in the Institute for Research in Social Science*
B.A., 1939 (North Carolina); Ph.D., 1949 (Massachusetts Institute of Technology)

ANN COBB THOMAS (1964), *Assistant Professor of Nursing*
B.S.N., 1960 (South Carolina); R.N.; M.N., 1961 (Emory)

COLIN GORDON THOMAS, JR. (1952), *Professor of Surgery*
B.S., 1940, M.D., 1943 (Chicago)

DONALD BRETT THOMAS (1959), *Research Assistant Professor of Public Health Nursing*
A.B., 1955, M.A., 1958 (Princeton)

HENRY CARRISON THOMAS (1957), *Professor of Chemistry*
B.S. in Chem., 1931, M.S., 1932 (North Carolina); Ph.D., 1935 (Yale)

MARY RUSSELL THOMAS (1960), *Assistant Reference Librarian, Division of Health Affairs Library*
A.B., 1938 (Goucher); M.A., 1939 (Columbia); M.S. in L.S., 1962 (North Carolina)

MASON PAGE THOMAS, JR. (1965), *Associate Professor of Public Law and Government*
B.S., 1949, LL.B., 1951 (North Carolina)

WILLIAM E. THOMAS (1964), *Clinical Assistant Professor of Psychology in the Department of Psychiatry*
B.S., 1947 (Hillsdale College); M.A., 1949 (Minnesota); Ph.D., 1955 (Michigan State)

[149]WILLIAM GRADY THOMAS (1961), *Assistant Professor in the Department of Surgery (Audiology)*
B.S., 1957 (Appalachian State Teachers College); M.A., 1961 (Washington University)

HERMAN ORA THOMPSON (1946), *Professor of Pharmacy*
S.B. in Phar., 1937 (North Carolina); M.S., 1940, Ph.D., 1944 (Purdue)

LLOYD JAMES THOMPSON (1960), *Clinical Professor of Psychiatry, Emeritus (1965)*
A.B., 1917 (Missouri); M.D., 1919 (Washington University)

FRED CLIFTON THOMSON (1963), *Associate Professor of English*
B.A., 1951, M.A., 1954 (California, Los Angeles); Ph.D., 1958 (Yale)

148. Absent on leave, 1966-1967.
149. Absent on leave, September 1, 1966 through August 31, 1967.

WELDON THORNTON (1961), *Associate Professor of English*
B.A., 1955 (Mercer); M.A., 1957 (Emory); Ph.D., 1961 (Texas)

LEWIS SUMNER THORP (1957), *Clinical Assistant Professor of Medicine*
B.S., 1949 (North Carolina); M.D., 1952 (Pennsylvania)

PHILIP CUTLER THORPE (1965), *Assistant Professor of Law*
A.B., 1954 (Michigan State); J.D., 1959 (Michigan)

JEAN HARMON THRASHER (1961), *Assistant Professor of Sociology, Clinical Assistant Professor of Psychiatry and Assistant Director of the Social Research Section of the Division of Health Affairs and Institute for Research in Social Science*
A.B., 1956 (Drake); M.A., 1959, Ph.D., 1961 (North Carolina)

THELMA GWINN THURSTONE (1952), *Professor of Education*
A.B., 1917, B.S. in Ed., 1920 (Missouri); A.M., 1923 (Carnegie Institute of Technology); Ph.D., 1926 (Chicago)

CHARLES WALTER TILLETT III (1956), *Clinical Assistant Professor of Surgery (Ophthalmology)*
A.B., 1942 (North Carolina); M.D., 1946 (Johns Hopkins)

ROLLIE TILLMAN, JR. (1957-58; 1960), *Associate Professor of Marketing and Director of the M.B.A. Program*
B.S. in B.A., 1955 (North Carolina); M.B.A., 1957, D.B.A., 1962 (Harvard)

ROBERT LANSING TIMMONS (1958), *Associate Professor of Surgery*
B.S., 1950 (Yale); M.D., 1953 (Harvard)

GEORGE BROWN TINDALL (1958), *Professor of History*
A.B., 1942 (Furman); M.A., 1948, Ph.D., 1951 (North Carolina)

DANIEL EASON TODD, JR. (1966), *Instructor in Education*
B.S., 1949, M.A., 1950 (East Carolina College)

AUBREY GRANVILLE TOLLEY (1956), *Clinical Assistant Professor of Psychiatry*
M.D., 1952 (Virginia)

[150]KENNETH TORRANCE (1965), *Research Associate in Chemistry*
B.Sc., 1962, Ph.D., 1965 (Glasgow)

HENRY ROLAND TOTTEN (1913), *Professor of Botany, Emeritus (1963)*
A.B., 1913, A.M., 1914, Ph.D., 1923 (North Carolina); LL.D. (Atlantic Christian)

NEAL HERRED TRACY (1958), *Professor of Education*
B.S., 1940 (North Dakota State College); M.Ed., 1950 (South Dakota); Ed.D., 1958 (Colorado)

DONALD BOYCE TRANTHAM (1965), *Lieutenant, United States Naval Reserve; Assistant Professor of Naval Science*
B.S., 1962 (Oklahoma State)

[151]CHARLES STEPHEN TRAVIS (1966), *Visiting Assistant Professor of Philosophy*
B.A., 1963 (California, Berkeley); M.A., 1965 (California, Los Angeles)

CHARLES D. TREXLER (1967), *Instructor in Hospital Administration*
B.S., 1956, M.B.A., 1957 (North Carolina)

RALPH MCCOY TRIMBLE (1923), *Professor of Applied Mathematics, Emeritus (1964)*
C.E., 1921 (Virginia); S.M., 1927 (North Carolina)

ROBERT JAMES TROYER (1965), *Assistant Professor of Mathematics*
B.S., 1950 (Ball State); M.A.T., 1956, Ph.D., 1960 (Indiana)

MARIA TSIAPERA (1966), *Assistant Professor of Linguistics*
B.A., 1957, M.A., 1958, Ph.D., 1963 (Texas)

GEORGE REGINALD TUCKER, JR. (1959), *Clinical Assistant Professor of Medicine*
B.S., 1952, M.D., 1955 (North Carolina)

LARRY TURNER (1952), *Clinical Assistant Professor of Surgery (Ophthalmology)*
A.B., 1935, M.D., 1939 (Duke)

ROBERT W. TUTHILL (1965), *Research Associate in Maternal and Child Health*
A.A., 1953 (Newton Jr. College); B.A., 1956 (Massachusetts); M.A., 1961 (Pennsylvania)

ARTHUR NORMAN TUTTLE, JR. (1958-59; 1965), *Lecturer in Planning*
B.S., 1952 (Virginia Polytechnic Institute); M.F.A., 1955 (Princeton); M.R.P., 1962 (North Carolina)

DONALD LATHAM TUTTLE (1965), *Assistant Professor of Business Administration*
B.S.B.A., 1956, M.B.A., 1961 (Florida); Ph.D., 1965 (North Carolina)

ROBERT TWAROG (1965), *Assistant Professor of Bacteriology*
B.S., 1956, M.S., 1958 (Connecticut); Ph.D., 1962 (Illinois)

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150. Resigned August 31, 1966.
151. Fall semester, 1966-1967 and spring semester, 1967.

[152]EUNICE NICKERSON TYLER (1945), *Professor of Public Health Education*
Ph.B., 1931 (Brown); C.P.H., 1933, M.P.H., 1936, Ph.D., 1946 (Yale)

[153]SHEPPARD YOUNG TYREE, JR. (1946), *Professor of Chemistry*
B.S., 1942, Ph.D., 1946 (Massachusetts Institute of Technology)

HERMAN ALFRED TYROLER (1960), *Associate Professor of Epidemiology*
A.B., 1943 (Ohio); M.D., 1947 (New York University College of Medicine)

J. RICHARD UDRY (1965), *Associate Professor of Maternal and Child Health and Associate Professor of Sociology*
B.S., 1950 (Northwestern); M.A., 1956 (Long Beach State College); Ph.D., 1960 (Southern California)

DINCER ULKU (1965), *Research Associate in Chemistry*
Ph.D., 1965 (Munich)

CLYDE JEFFERSON UMPHLETT (1961), *Assistant Professor of Botany*
B.S., 1951, M.S., 1957 (Virginia Polytechnic Institute); Ph.D., 1961 (North Carolina)

NEWTON UNDERWOOD (1950), *Professor of Radiological Science in the Departments of Environmental Sciences and Engineering and of Physics*
B.S., 1928 (Emory); M.S., 1930. Ph.D., 1934 (Brown)

DONALD BASSETT UPHAM (1963), *Lecturer in Radio, Television, and Motion Pictures*
B.S., 1955 (Northeastern)

LON ESKER USSERY, JR. (1956), *Instructor in Psychology in the Department of Psychiatry*
B.A., 1950 (Richmond)

RYOYU UTIYAMA (1966), *Visiting Professor of Physics*
Rigaku-hakushi, 1951 (Osaka University, Japan)

STUART CHARLES VALINS (1965), *Assistant Professor of Psychology in the Departments of Psychiatry and Psychology*
B.A., 1959 (Hunter College); M.A., 1963, Ph.D., 1964 (Columbia)

JAMES AUSTIN VALONE (1966), *Clinical Instructor in Surgery*
M.D., 1936 (Buffalo); M.S. in Surgery, 1940 (Michigan)

ROBERT DALE VANCE (1966), *Assistant Professor of Philosophy*
B.A., 1962 (Kenyon); Ph.D., 1966 (Duke)

RUPERT BAYLESS VANCE (1929), *Kenan Professor of Sociology (1945) and Research Professor in the Institute for Research in Social Science*
A.B., 1920 (Henderson-Brown); A.M., 1921 (Vanderbilt); Ph.D., 1928 (North Carolina); LL.D. (Hendrix College; Arkansas)

CHARLES DURWARD VAN CLEAVE (1940), *Professor of Anatomy*
B.A., 1925 (Colorado); Ph.D., 1928 (Chicago)

HENDRIK VAN DAM (1963), *Associate Professor of Physics*
Candidate Examen, 1955, Examen Doctorale, 1959 (University of Amsterdam)

ROBERT LEON VAN DE CASTLE (1965), *Associate Professor of Psychology in the Departments of Psychiatry and Psychology*
B.A., 1951 (Syracuse); M.A., 1953 (Missouri); Ph.D., 1958 (North Carolina)

GAIL ANN VAN WIE (1966), *Research Associate in Epidemiology*
B.A., 1961 (College of Wooster); Registry-Medical Tech., 1962 (Western Reserve)

JUDSON JOHN VAN WYK (1955), *Professor of Pediatrics*
A.B., 1943 (Hope College); M.D., 1948 (Johns Hopkins)

CHARLES ROBERTSON VERNON (1956), *Clinical Associate Professor of Psychiatry*
A.B., 1948 (North Carolina); M.D., 1952 (Western Reserve)

JAMES TAYLOR VERNON (1959), *Clinical Assistant Professor of Psychiatry*
A.B., 1942 (North Carolina); M.D., 1945 (Washington)

TOM ALFORD VESTAL (1957-1963; 1966), *Clinical Instructor in Obstetrics and Gynecology*
A.B., 1949 (North Carolina); M.D., 1953 (Duke)

FRED ARPS VINSON, JR. (1964), *Clinical Instructor in Psychiatry*
B.A., 1953, M.D., 1958 (Virginia)

MINANTS M. VITOLS (1961), *Clinical Assistant Professor of Psychiatry*
Dr. Med., 1944, Physic., 1947 (University of Hamburg); M.D., 1956 (North Carolina)

FREDERICK WRIGHT VOGLER (1961-62; 1963), *Associate Professor of French*
A.B., 1953, M.A., 1955, Ph.D., 1961 (North Carolina)

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152. Retired June 30, 1966.
153. Resigned August 31, 1966.

154ROBERT BROWN VOITLE (1952), *Professor of English*
A.B., 1949, A.M., 1950, Ph.D., 1954 (Harvard)

A. WOUTER VOORS (1966), *Instructor in Epidemiology*
M.D., 1951 (State University of Utrecht); M.P.H., 1956, Dr. P.H., 1965 (North Carolina)

WILLIAM JOSEPH WADDELL (1958), *Associate Professor of Pharmacology*
A.B., 1951, M.D., 1955 (North Carolina)

PAUL WOODFORD WAGER (1926), *Professor of Political Science, Emeritus (1964)*
B.S., 1917 (Hobart College); A.M., 1920 (Haverford); Ph.D., 1927 (North Carolina)

ROBERT HOWARD WAGNER (1950), *Associate Professor of Pathology in Pathological Chemistry and Associate Professor of Biochemistry*
A.B., 1943 (DePauw); Ph.D., 1950 (Cincinnati)

155GEORGE R. WALKER (1965), *Instructor in Surgery*
B.S., 1954 (Alabama); M.D., 1958 (Alabama)

HIAWATHA BROWN WALKER (1959), *Associate Professor of Public Health Education*
B.S., 1939 (Florence State Teachers College); M.A., 1946 (Peabody); M.P.H., 1947, Pn.D., 1959 (North Carolina)

156PETER FRANKLIN WALKER (1958), *Associate Professor of History and Modern Civilization*
A.B., 1952 (Mississippi College); M.A., 1956, Pn.D., 1958 (Vanderbilt)

RICHARD ISLEY WALKER (1962), *Associate Professor of Medicine*
B.S., 1950 (North Carolina); M.D., 1954 (Harvard)

AUDREY VIRGINIA WALL (1964), *Instructor in Clinical Social Work, Section of Allied Educational Programs*
B.A., 1951, M.S.W., 1954 (Howard University)

JOE THOMAS WALL (1966), *Assistant Professor of Operative Dentistry*
B.S., 1956, D.D.S., 1960 (North Carolina)

KENNETH W. WALLS (1964), *Adjunct Associate Professor of Parasitology (Field)*
A.B., 1949 (Indiana); M.S., 1952, Ph.D., 1955 (Michigan)

CHARLES DIXON WALLACE (1965), *Instructor in Psychiatry*
B.S., 1955, M.D., 1958 (North Carolina)

EARLE WALLACE (1956), *Associate Professor of Political Science and Associate Dean of the Graduate School*
A.B., 1951 (The Citadel); M.A., 1953, Ph.D., 1959 (North Carolina)

MARGARET JAEGER WALLACE (1964), *Assistant Professor of Nursing*
Diploma in Nursing, 1951, R.N.; B.S.N.Ed., 1955, A.M., 1958, Ed.D., 1964 (Duke)

WESLEY H. WALLACE (1952), *Professor of Radio, Television, and Motion Pictures and Director of the Communication Center and Research Associate in the Institute for Research in Social Science*
B.S., 1932 (North Carolina State); M.A., 1954 (North Carolina); Ph.D., 1962 (Duke)

157LISE WALLACH (1962), *Research Associate in Philosophy*
B.A., 1949 (Swarthmore); Ph.D., 1957 (Kansas)

MARCUS BISHOP WALLER (1962), *Associate Professor of Psychology*
B.S.E., 1950 (Florida); M.Ed., 1955, Ph.D., 1959 (North Carolina)

158YI CHU WANG (1962), *Associate Professor of History*
B.Sc. in Econ., 1939 (London); Ph.D., 1957 (Chicago)

LOUISE MURPHY WARD (1952), *Assistant Professor in Medical Technology, Section of Allied Educational Programs, School of Medicine*
A.B., 1933 (Woman's College, North Carolina); M.P.H., 1947 (Michigan)

158aCAROLYN BOGARDUS WARE (1963), *Instructor in Physical Therapy*
B.A., 1952 (Western Reserve); M.Ed., 1962 (University of Buffalo)

REX WELTON WARNER (1963), *Captain, United States Navy; Professor of Naval Science*
B.S., 1939 (United States Naval Academy)

DAVID GRANT WARREN (1964), *Assistant Professor of Public Law and Government*
A.B., 1958 (Miami University); LL.B., 1964 (Duke)

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154. Absent on leave, spring semester 1967.
155. Resigned June 30, 1966.
156. Absent on leave, fall semester 1966-1967.
157. Lecturer in Psychology, 1962-1966; Research Associate in Philosophy beginning 1966.
158. Absent on leave, 1966-1967.
158a. Resigned September 15, 1966.

DONALD WILLIAM WARREN (1963), *Associate Professor of Preventive Dentistry and Dental Science and Associate Coordinator of Dental Research*
B.S., 1956, D.D.S., 1959 (North Carolina); M.S., 1961, Ph.D., 1963 (Pennsylvania)

SARAH LOU WARREN (1956), *Assistant Professor of Preventive Medicine and Medicine*
A.B., 1944 (North Carolina); M.D., 1949 (Medical College of Virginia)

JULIA DAY WATKINS (1964), *Instructor in Public Health Nursing and Preventive Medicine*
A.B., 1939 (Bryn Mawr); R.N., 1944 (Medical College of Virginia); M.P.H., 1957 (North Carolina)

MARK E. WATKINS (1963), *Assistant Professor of Mathematics*
B.A., 1959 (Amherst College); M.A., 1961, Ph.D., 1964 (Yale)

RALPH MARTIN WATKINS (1953), *Clinical Associate Professor of Medicine and Preventive Medicine*
B.S., 1918, M.D., 1920 (Syracuse)

EUGENE RAY WATSON (1963), *Associate Professor of Education in Extension Teaching, Associate Director of the Extension Division and Head of the Bureau of Community Adult Education*
A.B., 1953 (North Carolina); M.Sc., 1961, Ph.D., 1963 (Wisconsin)

ROBERT BRIGGS WATSON (1966), *Professor of Parasitology*
B.Sc., 1924, M.D., 1930 (Tennessee); M.P.H., 1939 (Johns Hopkins)

SAMUEL EDGAR WATSON, JR. (1965), *Instructor in Hospital Administration*
B.A., 1962 (Florida); M.B.A., 1964 (George Washington)

LEWIS POINDEXTER WATTS, JR. (1958), *Associate Professor of Public Law and Government*
A.B., 1949 (Wofford); J.D., 1957 (North Carolina)

NORMAN FRED WEATHERLY (1963), *Associate Professor of Parasitology*
B.S., 1953, M.S., 1960 (Oregon State); Ph.D., 1962 (Kansas State)

ALEXANDER WEBB, JR. (1953), *Clinical Associate Professor of Surgery*
A.B., 1933 (North Carolina); M.D., 1937 (Harvard)

JAMES MURRAY WEBB (1947), *Professor of Planning*
A.B. in Architecture, 1937 (California); M.C.P., 1946 (Massachusetts Institute of Technology)

WILLIAM PHILLIP WEBSTER (1959), *Assistant Professor of Pathology and Assistant Professor of Periodontology and Oral Pathology*
B.S., 1955, D.D.S., 1959 (North Carolina)

FREDERICK RENFROE WEEDON (1956), *Visiting Professor of Anatomy*
B.S., 1921, M.S., 1923 (Florida); M.D., 1929 (Rush Medical College, University of Chicago)

STANLEY JOHN WEIDENKOPF (1965), *Professor of Sanitary Engineering*
B.S.C.E., 1932 (Wisconsin); M.P.H., 1949 (Minnesota); Eng.D., 1957 (Johns Hopkins)

RAOUL A. WEILER (1966), *Research Associate in Chemistry*
Ph.D., 1966 (Louvain University)

DONALD DOUGLAS WEIR (1958), *Associate Professor of Medicine and Preventive Medicine*
B.A., 1948 (Drake); M.D., 1953 (Iowa)

CHARLES MANUEL WEISS (1956), *Professor of Environmental Biology in the Department of Environmental Sciences and Engineering*
B.S., 1939 (Rutgers); Ph.D., 1950 (Johns Hopkins)

SHIRLEY FRIEDLANDER WEISS (1958), *Associate Professor of Planning and Research Associate in the Institute for Research in Social Science*
B.A., 1942 (Rutgers); M.R.P., 1958 (North Carolina)

159EDWARD WEISSBERGER (1967), *Research Associate in Chemistry*
B.S., 1963 (Brown)

ALICE S. WELLFORD (1964), *Research Associate in Epidemiology*
B.A., 1964 (Wellesley College)

DIANA DODD WELLS (1964), *Instructor in Physical Education*
B.S., 1961 (Radford); M.S., 1962 (Tennessee)

HENRY BRADLEY WELLS (1958), *Associate Professor of Biostatistics*
B.A., 1950 (Emory); M.S.P.H., 1953, Ph.D., 1959 (North Carolina)

ROGER BRYIE WELLS (1966), *Research Associate in Psychology*
B.A., 1963 (Reed College); M.A., 1966 (North Carolina)

159. Effective February 1, 1967.

SAMUEL FOGLE WELLS, JR. (1965), *Assistant Professor of History*
A.B., 1957 (North Carolina); M.A., 1961 (Harvard)

WARNER LEE WELLS (1952), *Associate Professor of Surgery*
A.B., 1934, M.D., 1938 (Duke)

[160]WILLIAM SMITH WELLS (1935), *Kenan Professor of English (1955) and Vice President for Academic Affairs*
A.B., 1929, A.M., 1930 (Southern California); Ph.D., 1935 (Stanford)

GEORGE SCHLAGER WELSH (1953), *Professor of Psychology in Department of Psychology, Clinical Professor of Psychology in Department of Psychiatry, and Research Professor in the Institute for Research in Social Science*
A.B., 1940 (Pennsylvania); Ph.D., 1949 (Minnesota)

LOUIS GORDON WELT (1952), *Professor of Medicine*
A.B., 1934 (New York); M.D., 1938 (Yale)

SIEGFRIED WENZEL (1960), *Associate Professor of English*
B.A., 1952 (University of Paraná, Brazil); M.A., 1956 (Ohio); Ph.D., 1960 (Ohio State)

ETHEL JEAN WERST (1964), *Instructor in Nursing, School of Nursing, and Research Associate in Pediatrics, School of Medicine*
B.S.N., 1960 (Catherine Spalding College, Louisville, Kentucky); R.N.; M.S., 1963 (Boston)

BETTY BARBREY WEST (1964), *Assistant Professor of Nursing*
Dip. in Nursing, 1945 (Duke University Hospital); R.N.; B.S.N., 1957, M.P.H., 1964 (North Carolina)

WILLIAM ALLEN WEST (1965), *Assistant Professor of English*
B.A., 1952 (Ohio Wesleyan); M.A., 1956 (Columbia); Ph.D., 1964 (Michigan)

WILLIAM CUSTIS WEST III (1966), *Instructor in Classics*
A.B., 1958 (Yale); Ph.D., 1966 (North Carolina)

JANICE RUTH WESTABY (1962), *Assistant Professor of Public Health Administration*
B.S., 1946, M.P.H., 1950 (Minnesota)

JOSEPH WILLIAM WHATLEY, JR. (1963), *Clinical Assistant Professor of Pediatrics and Medicine*
A.B., 1949 (North Carolina); M.D., 1959 (Duke)

CLAYTON EUGENE WHEELER, JR. (1961), *Professor of Dermatologic Medicine*
B.A., 1938, M.D., 1941 (Wisconsin)

RAYMOND M. WHEELER (1965), *Clinical Assistant Professor of Medicine*
M.D., 1943 (Washington)

[161]WALTER HALL WHEELER (1951), *Associate Professor of Geology*
B.S., 1945, M.S., 1948 (Michigan); Ph.D., 1951 (Yale)

BENNETTE E. WHISENANT (1965), *Captain, United States Air Force; Assistant Professor of Aerospace Studies*
B.S., 1957 (North Carolina)

PAUL FREDERICK WHITAKER (1953), *Clinical Associate Professor and Preceptor in Psychiatry*
M.D., 1922 (Medical College of Virginia); LL.D., 1947 (North Carolina)

JAMES RUSHTON WHITE (1962), *Associate Professor of Biochemistry*
B.S., 1948, Ph.D., 1953 (Stanford)

JAMES STARK WHITE, JR. (1956), *Clinical Assistant Professor of Pediatrics*
B.S., 1945 (North Carolina); M.D., 1947 (Northwestern)

[162]KINNARD PAUL WHITE (1964), *Assistant Professor of Education*
B.S., 1960 (Florida State); M.S., 1961, Ph.D., 1964 (Indiana)

WILLIAM ALEXANDER WHITE (1944), *Professor of Geology*
A.B., 1930 (Duke); A.M., 1931, Ph.D., 1938 (North Carolina); M.S., 1934 (Montana School of Mines)

DAVID GEORGE WHITTEN (1966), *Assistant Professor of Chemistry*
A.B., 1959, M.A., 1961, Ph.D., 1963 (Johns Hopkins)

MAURICE WHITTINGHILL (1942), *Professor of Zoology*
A.B., 1931 (Dartmouth); Ph.D., 1937 (Michigan)

[163]WILLIAM MARVIN WHYBURN (1948), *Kenan Professor of Mathematics (1948)*
A.B., 1922, M.A., 1923, Ph.D., 1927 (Texas); LL.D., 1948 (Texas Technological College)

ROBIN WHYMAN (1965), *Research Associate in Chemistry*
B.Sc., 1962, Ph.D., 1965 (Manchester, England)

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160. On leave from teaching, September 1, 1966.
161. Absent on leave, 1966-1967.
162. Resigned August 31, 1966.
163. Retired January 31, 1967.

WARREN JAKE WICKER (1955), *Assistant Professor of Public Law and Government*
A.B., 1948, M.A., 1950 (North Carolina)

DONALD ERIC WIDMANN (1966), *Instructor in Psychiatry*
A.B., 1956 (Harvard); M.D., 1960 (Western Reserve)

FRANCES KING WIDMANN (1966), *Instructor in Pathology*
B.A., 1956 (Swarthmore College); M.D., 1960 (Western Reserve)

JACK KNIGHT WIER (1961), *Assistant Professor of Pharmacognosy*
Ph.B., 1945 (Wisconsin); B.S. in Phar., 1956 (Nebraska); M.S., 1959, Ph.D., 1961 (Washington)

JAMES A. WIGGINS (1965), *Assistant Professor of Sociology*
B.S., 1957 (Iowa); M.A., 1959, Ph.D., 1963 (Washington at St. Louis)

JAMES ALLEN WIGHT (1965), *Lecturer in Social Work*
B.A., 1950 (Carson-Newman); M.S.W., 1963 (North Carolina)

BENSON REID WILCOX (1963), *Assistant Professor of Surgery*
A.B., 1953, M.D., 1957 (North Carolina)

JAMES ANDREW WILDE (1965), *Lecturer in Economics and Adviser in the General College*
B.A., 1960 (Wesleyan)

WILLIAM LEON WILEY (1925-28; 1931), *Kenan Professor of French (1955)*
A.B., 1921 (Chattanooga); A.M., 1925, Ph.D., 1930 (Harvard); Litt.D. (Chattanooga)

PREBEN WILHJELM (1966), *Research Associate in Physics*
Cand. Mag., 1964 (Niels Bohr Institute, Copenhagen)

EMILY G. WILLERMAN (1965), *Research Associate in Maternal and Child Health*
A.B., 1935 (Bethany); M.A., 1936 (Columbia); Ph.D., 1943 (State University of Iowa)

DONALD G. WILLHOIT (1964), *Assistant Professor of Radiological Hygiene in the Department of Environmental Sciences and Engineering*
B.A., 1956 (William Jewell College); M.S., 1958 (Washington); Sc.D., 1964 (Pittsburgh)

AUSTIN BEATTY WILLIAMS (1952-55; 1956), *Professor in the Institute of Fisheries Research*
A.B., 1943 (McPherson); Ph.D., 1951 (Kansas)

EDWARD SUTHERLIN WILLIAMS (1964), *Clinical Instructor in Medicine*
B.A., 1950, M.D., 1954 (North Carolina)

PAUL F. WILLIAMS (1962), *Clinical Instructor in Medicine*
B.S., 1951 (Wake Forest); M.D., 1955 (Pennsylvania)

PEGGY SUE WILLIAMS (1966), *Instructor in Surgery*
B.S., 1963, M.S., 1964 (West Virginia University)

164THOMAS FRANKLIN WILLIAMS (1956), *Associate Professor of Medicine and Preventive Medicine*
B.S., 1942 (North Carolina); M.A., 1943 (Columbia); M.D., 1950 (Harvard)

JOEL R. WILLIAMSON (1960-61; 1962), *Associate Professor of History and Modern Civilization*
A.B., 1949, M.A., 1951 (South Carolina); Ph.D., 1964 (Berkeley)

GERTRUDE MITCHELL WILLIS (1957), *Clinical Assistant Professor of Medicine*
B.A., 1927 (Wayne); M.D., 1930 (Michigan)

HENRY STUART WILLIS (1954), *Clinical Professor of Medicine*
B.A., 1914 (North Carolina); M.D., 1919, M.A., 1920 (Johns Hopkins)

FRANK CRANE WILSON, JR. (1964), *Assistant Professor of Surgery (Orthopedics)*
B.A., 1950 (Vanderbilt); M.D., 1954 (Medical College of Georgia)

IAN CLARKE WILSON (1959), *Lecturer in Psychiatry*
M.B., Ch.B., 1946, D.P.H., 1950 (University of Edinburgh, Scotland); D.P.M., 1956 (University of Leeds, England)

JAMES STEPHENSON WILSON (1962), *Clinical Instructor in Surgery*
B.S., 1934 (Davidson); M.D., 1937 (Duke)

JOHN ERIC WILSON (1950), *Professor of Biochemistry*
S.B., 1941 (Chicago); M.S., 1944 (Illinois); Ph.D., 1948 (Cornell)

LOUIS ROUND WILSON (1901-32; 1942), *Professor of Library Science and Administration, Emeritus (1959)*
A.B., 1899, A.M., 1902, Ph.D., 1905 (North Carolina); Litt.D. (Denver); LL.D. (Haverford; North Carolina); L.H.D. (Catawba)

164. Absent on leave, September 1, 1966 through August 31, 1966.

ROBERT NEAL WILSON (1963), *Professor of Mental Health and Epidemiology; Professor of Sociology*
B.A., 1948 (Union College); Ph.D., 1952 (Harvard)

WALTER HOWARD WILSON (1952), *Clinical Professor of Medicine*
A.B., 1933 (North Carolina); M.D., 1937 (Jefferson)

WILLIAM LENOIR WILSON (1959), *Adjunct Associate Professor of Public Health Administration*
A.B., 1921, B.S., 1926 (Southern Methodist); M.D., 1926 (Baylor); M.P.H., 1947 (Johns Hopkins)

WHITTEN PHILIP WINDHAM (1958-60; 1963), *Lecturer in Accounting*
B.S., 1957, M.S., 1958 (Alabama); C.P.A. (State of Mississippi)

REX SHELTON WINSLOW (1929), *Professor of Economics and Director of the Bureau of Business Services and Research, School of Business Administration*
A.B., 1923 (Simpson College); A.M., 1929 (Illinois); Ph.D., 1936 (North Carolina)

ARTHUR SIMEON WINSOR (1919), *Professor of Mathematics, Emeritus (1956)*
A.B., 1914, A.M., 1915 (Mount Allison College); Ph.D., 1927 (Johns Hopkins)

WILLIAM ALPHONSO WITHERS (1952), *Clinical Assistant Professor of Medicine*
A.B., 1932 (North Carolina); M.D., 1937 (Chicago)

ALCUIN DONALD WOLFF (1966), *Clinical Instructor in Radiology*
B.S., 1950 (Guilford); M.D., 1954 (North Carolina)

NATHAN ANTHONY WOMACK (1951), *Kenan Professor of Surgery (1963)*
S.B., 1922 (North Carolina); M.D., 1924 (Washington University)

DONALD MILTON WOOD (1963), *Assistant Professor of Psychology in the Department of Psychiatry; Assistant Director, Child Development Institute*
B.S., 1959 (Purdue); M.A., 1962, Ph.D., 1963 (North Carolina)

MARION STAUNTON WOOD (1956), *Professor of Nursing*
Dip. in Nursing, 1929 (Garfield Memorial Hospital, Washington, D. C.); R.N.; B.S., 1939 (Ohio State); M.A., 1955 (Columbia)

MATTHEW THOMAS WOOD[165] (1958), *Associate Professor of Prosthodontics*
A.B., 1954, D.D.S., 1958 (North Carolina)

WILLIAM BAINSTER WOOD (1963), *Assistant Professor of Medicine*
B.S., 1953, M.D., 1956 (North Carolina)

SHIRLEY F. WOODELL (1960), *Lecturer in Residence, School of Business Administration*
A.B., 1927 (Columbia)

JAMES WATSON WOODS (1953), *Professor of Medicine*
A.B., 1939 (Tennessee); M.D., 1943 (Vanderbilt)

WILLIAM JOSEPH WOODS (1962), *Assistant Professor in the Institute of Marine Sciences*
B.S. in Ed., 1951, M.Ed., 1952 (Temple); Ph.D., 1960 (Rutgers)

RALPH LEE WOODWARD, JR. (1963), *Assistant Professor of History*
A.B., 1955 (Central College, Missouri); M.A., 1959, Ph.D., 1962 (Tulane)

ROBIN NATHANIEL WOOTEN (1965), *Instructor in Anatomy*
B.S., 1958 (Davidson); M.D., 1964 (North Carolina)

JAMES J. B. WORTH (1965), *Visiting Instructor in Geology*
B.S., 1952 (Pennsylvania State); M.S., 1957 (Michigan)

CHARLES DAVID WRIGHT (1962), *Assistant Professor of English and Adviser in the College of Arts and Sciences*
A.B., 1953 (Wayne State); A.M., 1954 (Wisconsin); Ph.D., 1963 (State University of Iowa)

ISAAC CLARK WRIGHT (1952), *Clinical Associate Professor of Medicine*
B.S., 1942 (North Carolina); M.D., 1944 (Maryland)

JAMES RHODES WRIGHT (1960), *Clinical Instructor in Surgery*
A.B., 1937 (North Carolina); M.D., 1940 (Maryland)

JOHN JOSEPH WRIGHT (1939), *Professor of Public Health Administration and Director of Continued Education Service*
A.B., 1931, M.D., 1935 (Vanderbilt); M.P.H., 1939 (Johns Hopkins)

JULIAN MEADE WRIGHT (1961), *Lecturer in Accounting*
B.S., 1951 (Hampden-Sydney); M.B.A., 1954 (Pennsylvania)

RUTH PETTY WRIGHT (1966), *Research Associate in Maternal and Child Health*
B.S., 1950 (Utah State Agricultural College); M.A., 1952 (Michigan)

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165. Resigned September 15, 1966.

SEYMOUR WALTER WURFEL (1960), *Professor of Law*
A.B., 1927 (Pomona); LL.B., 1930 (Harvard); J.D., 1950 (Emory)
EARL WYNN (1938), *Professor of Radio, Television, and Motion Pictures*
A.B., 1932 (Augustana College); M.S., 1934 (Northwestern)
WILLIAM H. WYNN (1963), *Assistant Professor of Psychology*
B.A., 1951, Ph.D., 1966 (Texas)
WILLIAM GEOFFREY WYSOR, JR. (1956), *Associate Professor of Medicine*
B.A., 1947, M.D., 1950 (Virginia)
KATIE RICHARDS YELVERTON (1963), *Instructor in Biostatistics*
B.S., 1961 (Oklahoma)
SHARI ANN YELVINGTON (1966), *Instructor of Preventive Dentistry and Dental Science*
B.S.S., 1962 (Henderson State Teachers College, Arkansas)
JOHN F. YESULAITIS (1964), *Instructor of Music and Director of University Bands*
B.M., 1954 (Maryland); M.M., 1964 (Catholic University of America)
LLOYD ROBERT YONCE (1957), *Associate Professor of Physiology*
B.S., 1949 (Montana State); M.S., 1952 (Oregon State); Ph.D., 1955 (Michigan)
DANIEL TEST YOUNG (1955), *Associate Professor of Medicine*
B.S., 1946 (Guilford); M.D., 1950 (Harvard)
DAVID ALEXANDER YOUNG (1945), *Clinical Professor of Psychiatry*
A.B., 1928 (North Carolina); M.D., 1931 (Harvard)
JOHN E. YOUNG (1950), *Director of Television, Chapel Hill Studios, WUNC-TV*
A.B., 1948 (North Carolina); M.A., 1956 (Northwestern)
ROBERT FOSTER YOUNG (1965), *Visiting Associate Professor of Public Health Administration*
A.B., 1933, M.D., 1937 (Emory); M.P.H., 1948 (North Carolina)
WILLIAM BEAUREGARD YOUNG (1957), *Clinical Assistant Professor of Medicine*
M.D., 1948 (Emory)
RICHARD HAROLD ZAFFRON (1966), *Assistant Professor of Philosophy*
B.A., 1958 (Harvard)
WAYNE PERRY ZARR (1963), *Instructor of Music*
B.A., 1959 (Pennsylvania); M.M., 1961 (Indiana)
NAKHLEH PACIFICO ZARZAR (1959), *Clinical Assistant Professor of Psychiatry*
B.A., 1952, M.D., 1956 (American University, Beirut, Lebanon)
MICHAEL WILLIAM ZENGE (1966), *Instructor of Music*
B.M., 1962 (Oberlin College Conservatory); M.M., 1963 (Illinois)
BETTY GRAY ZOUCK (1949), *Botany Librarian*
A.B., 1933, A.B. in L.S., 1934 (North Carolina)
STEPHEN JEROME ZYZANSKI (1966), *Research Associate in Epidemiology*
B.S., 1960, M.S., 1962 (Iowa State)

GRADUATE APPOINTMENTS, 1966-1967

Career Teaching Fellows

CALEB BURCH BANKS, A.B. ..... History
MARTIN FEINSTEIN, B.A. ..... Political Science
CAROLYN BARBARA HUFF, B.A., M.A. ..... History
JAMES R. HUGHES, B.S., M.S. ..... Mathematics
MARTHA NIEPOLD JOHNSON, B.A. ..... Music
MARY ELIZABETH MEBANE, B.A., M.A. ..... English
ALICE P. HALL NIXON, A.B. ..... Germanic Languages
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LINDA LOEB CLARK, B.A. ..... History
FREDERICK A. DEARMAS, A.B. ..... Comparative Literature
CHARLES CHASINS GORDON, A.B. ..... Sociology
SUZANNE HAYNES MACRAE, B.A. ..... English
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JAMES JOSEPH BATTER, B.S., M.S. ..... Information Science
MARCIA JUDITH CITRON, B.A. ..... Music
GERALD R. CULLEY, B.A. ..... Classics
LAURENCE RICHARD DUSOLD, B.S. ..... Chemistry
JOSEPH FAMA, B.A. ..... Linguistics, Slavic, and Oriental Languages
THOMAS DONNELLY FRIEDRICHS, B.A. ..... Psychology
MIRJANA LERA, B.A. ..... Linguistics, Slavic, and Oriental Languages
LILLE BELLE MUNFORD, B.A. ..... Romance Languages
JUDITH ANNE O'CONNOR, B.S. ..... Chemistry
DERRIS LEA RAPER, B.A. ..... History
KARYN SUE RICHARDS, B.A. ..... English
JOLINE FRANCES RIDLON, A.B. ..... Classics
KAREN VON LEHM STORCK, B.A. ..... Radio, Television, and Motion Pictures
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THOMAS CARL BROWN, JR., B.S. ..... Information Science
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DOROTHY CAYE CLEMENT, B.A. ..... Anthropology
WILLIAM DEAN HAZELTON, B.A. ..... Philosophy
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WILLIAM MARTIN SCHNEIDER, B.S., LL.B. ..... Anthropology
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MILTON HERSH ZAUBER, A.B. ..... Education

Program for the Education of Teachers of Mentally Retarded Children

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ADA JO BOREN BURKE, A.B. ..... Education
JEANNE POPE CARTER, B.A. ..... Education
JEAN WILSON GREENER, B.A. ..... Education
IRWIN SAUL LEVY, B.B.A., M.Ed. ..... Education
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TONI CLAIRE OSTER, B.A. ..... Education
KATHLEEN RUNCHEY, A.B. ..... Education
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JOYCE PETERSON STINES, B.S.E. ..... Education
CAROL MCCORMICK WILSON, B.S. ..... Education
PENELOPE LAPHAM YOUNG, A.B. ..... Education

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JUDITH ANNE CRISSMAN, B.A. ..... Chemistry
HAROLD ALLEN CURRAN, B.S., M.S. ..... Geology

HAROLD PHILIP FRY, A.B., M.A. ..... Germanic Languages
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ENRIQUE HOYOS, B.A., M.A. ..... Romance Languages
JOHN AMBROSE HUTCHESON, JR., A.B. ..... History
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BENJAMIN FRANKLIN WARD, B.S. ..... Chemistry

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WILLIAM DUNCAN MCARTHUR, JR., B.A. ..... English
NANCY JANE MCCASKEY, B.A. ..... English
LEE ANN MCGRAW, B.A. ..... English
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ROBERT E. HUFF, B.S. ..... Mathematics
PAUL SEBASTIAN JULIENNE, B.S. ..... Chemistry
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WILLIAM PHILLIPS SHIVELY, B.A. ..... Political Science

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RUSSELL SAGE HARRISON, JR., A.B. ..... Political Science
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THOMAS JOSEPH WEISS, B.S., Irwin Fellowship
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IIRIAM LOUISE WILLIS, A.B., Baltimore City Schools Grant, North Carolina Department of Public Welfare Grant
AWRENCE ADDISON WILSON, JR., A.B., M.S., National Institute of Health Research Trainee
NN RICHARDSON WINSTEAD, A.B., Person County Department of Public Welfare Grant, North Carolina Department of Public Welfare Grant
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)ESOLEE STONE YEISER, A.B., National Institute of Mental Health Grant
TEFAN ALAN YOUNG, B.S., National Institute of Health Fellow
VILLIAM EARL YOUNG, B.S., M.S., Doctoral Dissertation Fellow
REDERICK GENE ZIEGLER, B.E., M.S., U. S. Public Health Service Trainee

Miscellaneous Service Appointments

AMES BLANE ALDERMAN ..... Physical Education
ICHARD FRED ALLEN, B.S., M.Ed. ..... University Testing Service
AY VON BEATTY, JR., B.S., M.Ed. ..... University Testing Service
ONALD ROBERT BEAVER, A.B. ..... Physical Education
IENRY BERGER, JR., B.S. ..... Biochemsitry
LORIA HOTENSE BLANTON, A.B., M.A. ..... Linguistics, Slavic, and Oriental Languages
OHN T. BOBKOFF, B.D., M.A. ..... Linguistics, Slavic, and Oriental Languages
'HILIPPE CLARET, B.A. ..... Romance Languages
DWIN SAMUEL CLAY III, B.A. ..... Library Science
IENRIETTA BROWN CROOM, A.B. ..... Biochemistry
EDRON LEE DAVIS, B.A. ..... Library Science
OERG OTTO FICHTE, B.A. ..... Germanic Languages
AROLINE B. GAKENHEIMER, B.A., M.A. ..... Anthropology
AYLLE SHARON GARRISON, B.A. ..... Library Science
)AVID EDWARD INGOLD, A.B. ..... University Library
ICHARD WILLIAM IOBST, A.B., M.A. ..... History
IANCY GERTRUDE JACKSON, B.A. ..... Library Science
IOWARD MAXWELL JERNIGAN, B.S. ..... Biochemistry
'RAKASH CHANDRA JOSHI, B.Sc., M.Sc. ..... Biostatistics
)AVID GEORGE KLEINBAUM, A.B., A.M. ..... Statistics
3RUCE ALAN KNARR, A.B. ..... Library Science
3ARY GROVE KOCH, B.S., M.S. ..... Biostatistics
ROBERT LEON LINEBERRY, B.A. ..... Political Science

RICHARD BYRON LUPTON, A.B. ..... Romance Languages
THOMAS MCLEOD MCINNES, JR., B.S. ..... Botany
BRADFORD LAYTON MOORE, B.A. ..... History
STANLEY G. MOORE, B.A., M.A. ..... English
JANETTE IRENE MOSER, B.A. ..... Library Science
BETTY LUE MOSS, A.B. ..... Romance Languages
LINDA VEATCH NEAL, B.A. ..... Library Science
GRAHAM EARNEST NICHOLS, JR., A.B. ..... Physical Education
CHARLOTTE CHEN OU, B.A. ..... Library Science
WILLIAM FRANCIS PRITCHARD, B.S., M.A. ..... Education
DONALD RAY RICHARDSON, A.B., M.A. ..... Library Science
PAMELA MORRICE SANDERS, A.B. ..... Library Science
DAVID PETER SCHENK, A.B. ..... Romance Languages
IRA GEORGE SHAPIRO, A.B. ..... Physical Education
JANET ELIZABETH SHEELS, A.B. ..... Library Science
DANIEL SHEFER, B.L.A., M.C.P. ..... City and Regional Planning
CAROL P. VALERIE SPANGLER, B.A. ..... University Testing Service
LEDYARD SKIPWITH STAPLES, II, A.B. ..... Physical Education
MARY JANE STEARNS, A.B. ..... Romance Languages
JAMES A. STIMSON, B.A. ..... Political Science
ALLEN P. WADSWORTH, JR., A.B., B.D., M.Ed. ..... University Testing Service
JOHN GILBERT WAY, B.A., M.A. ..... University Testing Service
ROBERT KENNETH WILLIAMS, B.S. ..... Biochemistry
MARY CAROLINE WISE, A.B., M.A.T. ..... Library Science
JOHN HUBERT WOMELHORF, B.S. ..... Library Science
RHEAMAN P. WOOD, JR., B.A. ..... Germanic Languages
WALTER VAN WOOD, B.S. ..... Physical Education
LINDA RUTH YOUNG, B.A. ..... Library Science

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